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St. Gudule, Brussels

From a drawing by John Coney, recently presented by Mr. Sydney D. Kitson

JOURNAL OF THE
ROYAL INSTITUTE *of* BRITISH ARCHITECTS

VOL. 41. 3RD SERIES 23 DECEMBER 1933 No. 4

Journal

We regret to announce the deaths of Mr. Arnold Dunbar Smith and Mr. Nathaniel Lloyd, both members of the Institute, who in their own provinces as practising architect and architectural scholar produced work of an enduring quality. Of Mr. Dunbar Smith it is hardly necessary to speak here, for we publish on page 200 a memoir and letters from Dr. Cyril Fox, director of the National Museum of Wales, and Mr. Walter Millard, which express not only the personal feelings of friends, but the admiration and respect which was universally felt for his work. Only in in our last number we published a photograph of Messrs. Heal and Son's shop in Tottenham Court Road, which was built in 1916 in partnership with Mr. Brewer, and which, as *The Times* said in its obituary of Mr. Dunbar Smith, "in spite of all the changes that have been introduced since it was erected . . . remains as the most completely satisfying piece of modern shop architecture in London." New methods and new materials were here used, as in all Mr. Dunbar Smith's work, with a facility and scholarship which is no less an example of practice to this age than it was to the age in which Heal's was built. That his hand had not lost its cunning can no less be seen in his most recent works, the new staircase at Heal's and the Marlay Galleries of the Fitzwilliam Museum at Cambridge.

In this JOURNAL is the last of many reviews which Mr. Nathaniel Lloyd contributed to our pages—a small thing, no doubt, but a timely reminder of a personal connection with the work of the Institute which we have good reason to regret can be no more; it is, of course, as the author of the standard *History of English Brickwork* and the *History of the English House*, that Nathaniel Lloyd made his contributions to Architectural Scholarship. His knowledge of the past, though encyclopædic, was always founded on a true enjoyment and understanding of the subjects which he chose to make his own, and with brickwork, particularly, he was as reliable an authority on modern practice as he was on ancient.

HOUSING POLICY

The debate on Housing, which was opened by the Lord Bishop of Winchester in the Upper House on Tuesday, 12 December, was one of the most notable discussions that there has been on this subject in either House of Parliament. The debate was chiefly remarkable for the authority and weight of opinion expressed by members of all parties, that the policy which is being applied by the Government through the Housing Act of 1933, is desperately inadequate to meet the immediate needs of the community, and no more likely to meet the needs of the community five years hence, when the programme will have reached its full development. As Sir Ernest Simon has shown in his latest book, *The Anti-Slum Campaign*, the whole progress of Housing and Slum Clearance since the war has been held up by the determination of successive governments to negative the efforts of each other; the Conservatives repealing Labour Acts stimulating local authority housing; and the Labour Governments repealing Conservative Acts encouraging private enterprise housing; and even now the game continues, so that, as the Bishop of Winchester showed, it is extremely improbable if, under existing provisions, the Wheatley subsidy being abolished, we can hope to reach anything like an adequate supply of houses to let at rents within the means of the poorest tenants, who are those who should have first consideration.

In five years, the Bishop stated, if existing legislation works effectively, we shall have 465,000 new houses, some 84,000 of which will have been built as survivors from the Wheatley provisions, 210,000 under the 1930 Act, and 160,000 by private enterprise. This seems creditable enough until we are reminded that in five years there will be something like 300,000 new families in existence, which, even if the average size of the families falls lower than it is to-day, will require almost as many houses to accommodate them alone, leaving very few as a contribution towards the solution of existing overcrowding. Figures based on the number of families are, perhaps, misleading; more instructive is the figure calculated by Mr. Philip H. Massey for the *Architects' Journal* on the basis of one and a half persons per room. Taking that figure as an attainable optimum, the *Architects' Journal* showed that for twelve only of the largest cities in Great Britain, 500,000 houses are needed *now*, and about 1,400,000 for the whole country. These figures are doubly valuable in coming from an authority with no political flag at its mast-head, and which can properly be described, as it was by *The Times*, as being "unimpeachable." The Bishop of Winchester quoted the figures reached in the *Architects' Journal* survey and also quoted figures given by Sir Raymond Unwin in one of his addresses to the Institute.

More imposing, however, than the extent of the criticism was the unanimity with which members of all parties

expressed a desire for more consideration of the proposals, which Sir Raymond has so often advocated, for the establishment of a National Housing Corporation. Some of the confidence that may have been stimulated by the enthusiastic launching of the Government's programme has undoubtedly faded now it is seen how clearly even the best that can be done under present Acts falls short of the absolute necessity. It is to be hoped that notice will be taken of the growing weight of opinion and that the housing policy of the country may be made to rest on more than pious hopes and reliance on private sources of supply that never yet have shown themselves equipped or prepared to build houses to let at really cheap rents, and whose activity is uncontrolled by anything but a very understandable but not necessarily socially-minded desire to make a good financial return.

The Subsoil of St. Paul's

The problem of preventing the collapse of St. Paul's Cathedral is, or was, twofold. The structure itself was unsound, and, as everybody knows, has now been made stable. The second part of the problem, which is almost entirely distinct from the first, lies in the poor foundation for the structure provided by the subsoil. Those who do not realise that there are two parts of the problem may be inclined to wonder at the apparently renewed concern for the safety of the Cathedral. Of the two, the structural part was by far the more important and urgent, and was accordingly given precedence in execution. The proposals for securing the subsoil against movements that would lessen resistance to existing foundation pressures have just been published in a report prepared by Sir Alexander Gibb and Mr. Ralph Freeman, the engineers in charge of the subsoil survey, which was, as the report acknowledges, initiated by Mr. Godfrey Allen, Surveyor to the Fabric. The account of the survey, and the definite proposals which result, are of interest to architects, not only because they are concerned with a national monument of pre-eminent importance, but also because the methods used in making the survey are in themselves of extraordinary interest. Clearly, in making safe a building so important as St. Paul's, it would be folly to neglect a piece of work on which, to some extent, the efficacy of the preservation work that has already been done depends. The methods employed in the survey are worth recording at some length, and we propose doing so in a forthcoming issue, not only because they will serve as a model in other cases, but because they will also form a nucleus round which a much needed complete survey of the subsoil of London could be made.

Architects will realise the importance of this investigation from the fact that the pressure of the foundations on the subsoil below the dome piers is as high as five tons per square foot. This pressure is on a bed of "potter's clay" from four to six feet thick, which in turn rests on a layer of partially waterlogged ballast varying from 14 to 20 feet in depth. It is interesting to note that the foundations of the mediæval Cathedral were found to go no deeper than those of the present building, so that Wren had good precedent for what he did, and may consequently be exonerated from the charge of bad building. The engineers conclude that, in order to assure an adequate degree of safety for the Cathedral in the future, all building should be controlled within an area extending from Newgate Street on the north to Queen Victoria Street on the south and from Old Bailey on the west to Friday Street on the east. If this can be achieved it will be a great step towards the formation of the "sacred area" which Canon Alexander has advocated for so long and will provide dramatic and practical evidence of the appreciation of its Cathedral that the City of London has never hesitated to express.

A Gift to The Queen from the R.I.B.A. Unemployment Committee

Her Majesty the Queen has been graciously pleased to accept a copy of the drawing of Carlton House Terrace which has been prepared by unemployed members of the architectural profession working under the scheme organised by the London Society in collaboration with the Architect's Unemployment Committee of the Institute. This drawing, which is entitled "A Prospect of the Mall as existing in 1933," is only one example of the interesting work which is being done in this new comprehensive survey of London, and Her Majesty's acceptance of it is a very gratifying tribute to the organisers of this excellent scheme.

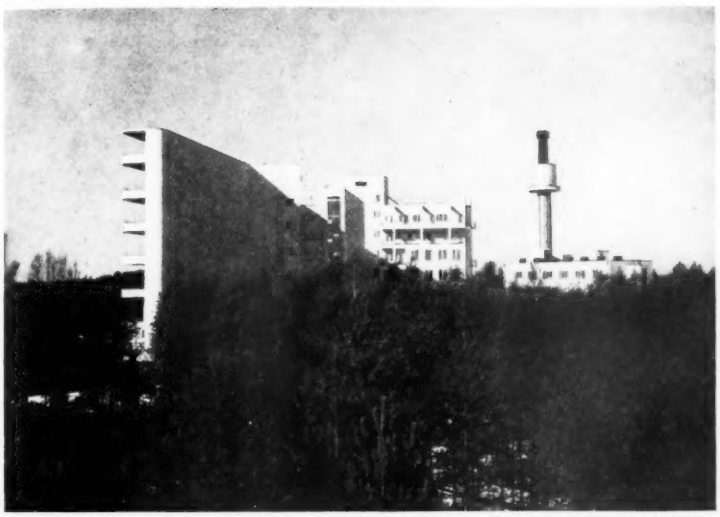
"Assistant Architects" Act and the Architects (Registration) Act, 1931

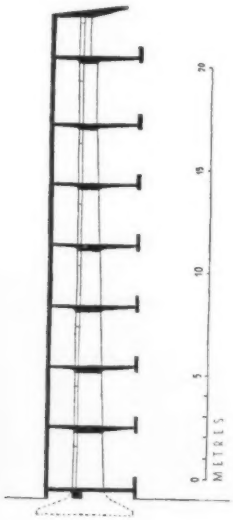
The Chairman of the Architects' Registration Council of the United Kingdom announces that the Council have framed an amendment to Regulation 26 (2) to extend the qualifying period of ten years to coincide with the date of the application if made before the 31 December 1933. Applications from assistant architects, who would benefit by this amendment in the event of its being authorised, will be considered by the Admission Committee on condition that they are deposited here before 31 December 1933, and on the understanding that such candidates will not be eligible should the proposed amendment not materialise.

Regulation 26 (2) provides that a person shall be eligible to apply for registration under the Act if his application for registration be made before the 31 December 1933, and if on the 1 January 1932 he was an assistant architect and had been engaged in the study and practice of architecture for at least ten years.

Building Acts and Bye-Laws

We wish to call very special attention to the Ministry of Health Memorandum, a second instalment of which is printed on page 191. The whole matter is one of great complexity, as most architects have learnt to their cost. This straightforward description of the relations of client, builder and architect to the law is of great assistance and should be read with care.





Architectural Review

THE SUN BALCONIES AT THE TUBERCULAR HOSPITAL AT ABO. By Alvar Aalto

Showing the cantilever construction of the whole wing, and a section through the wing

NEW MATERIALS AND NEW METHODS

BY SERGE CHERMAYEFF, F.R.I.B.A.

A PAPER READ BEFORE THE ROYAL INSTITUTE OF BRITISH ARCHITECTS ON MONDAY, 18 DECEMBER 1933

THE PRESIDENT (SIR GILES GILBERT SCOTT, R.A.) IN THE CHAIR

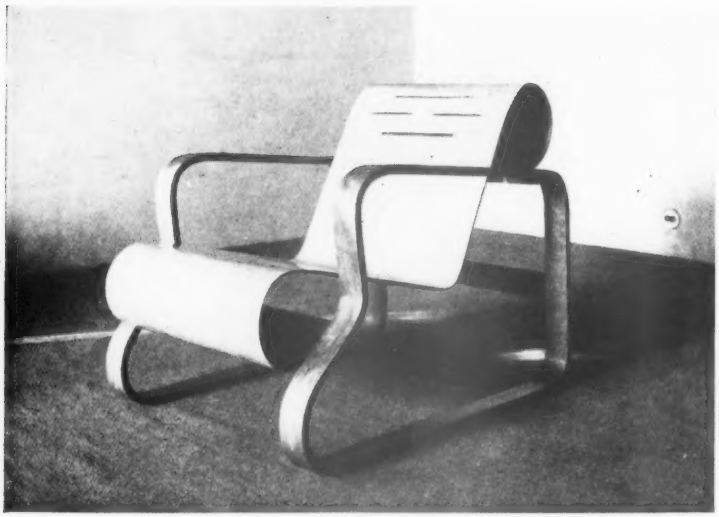
WHEN the Institute determined the title of this paper I presume they required a discussion of contemporary materials and methods which have made serious contribution to the art of building. At the same time, in spite of the implication, the adjective "modern" has been avoided.

The terms "moderne" and "modernistic" have been discredited by all sorts of people as words, but I suspect that the Institute's diffidence in employing the comprehensive "modern" is caused, not by the desire to avoid confusion of words, but in order to dissociate itself from executed work claiming the title.

The substitution of the adjective "new," however, brought about another complication. It occurred to me that the lecturer would be expected to produce novelties like rabbits out of a hat. But what selected rabbit can *one* Maskelyne produce effectively before a *crowd* of Devants?

Before the profession this is obviously no task for any man under so general a title. Particularly is it a difficult task for an architect whose useful contribution can properly be made only through work.

I can only apologise, therefore, to any who hoped to learn of some special structural developments and refer them to the interesting detail at the Building Centre or in the information sheets of Sir John Burnet, Tait and Lorne and the technical columns of the architectural papers conducted by Mr. Edwin Gunn, Mr. F. R. S. Yorke, and others, and the new technical section of the R.I.B.A. JOURNAL.



Architectural Press

A BENT PLYWOOD CHAIR. Alvar Aalto

I will endeavour to examine generally what claim to be contemporary materials and methods in order to distinguish in the profusion between those which really contribute something new and those others which simply complicate or directly clog the machinery of progress in construction and architecture. In fact, the difference between the legitimate and the illegitimate "new," particularly as most new things are at first suspected of being the latter.

I would submit that nothing need occupy our serious attention at this particular time in examining new materials other than those which have a direct social significance. That is to say :—

Those problems in building which now require the architect's fullest attention and best service are the practical and economic problems of housing, industry and transport. The problems of regional and town planning, slum clearance and the erection of new buildings in a manner and with materials which will not saddle the obsoleteness of a bygone age on ourselves or on those who will come after.

We must examine materials and methods in relation to these principles and *not* in connection with details of secondary importance concerned with "Artistic Embroidery."

The parallel ideal in industry is not to build bigger and better chimneys with the latest materials, but to eliminate them.

The state of emergency, as I see it, permits the "artistic" architects to comfort themselves by remembering Oscar Wilde's dictum, which began: "We can forgive a man for making a useful thing as long as he does not admire it." Whereas these other architects who are less concerned with Art can derive a pleasant feeling of warmth from the second half of the quotation, which, you will remember, goes on: "The only excuse for making a useless thing is that one admires it intensely —all art is quite useless."

It is my endeavour to show that *new* materials and *new* methods worth examining have nothing in common with "Art Nouveau," but are, as it were, the chemicals of a new science of living.

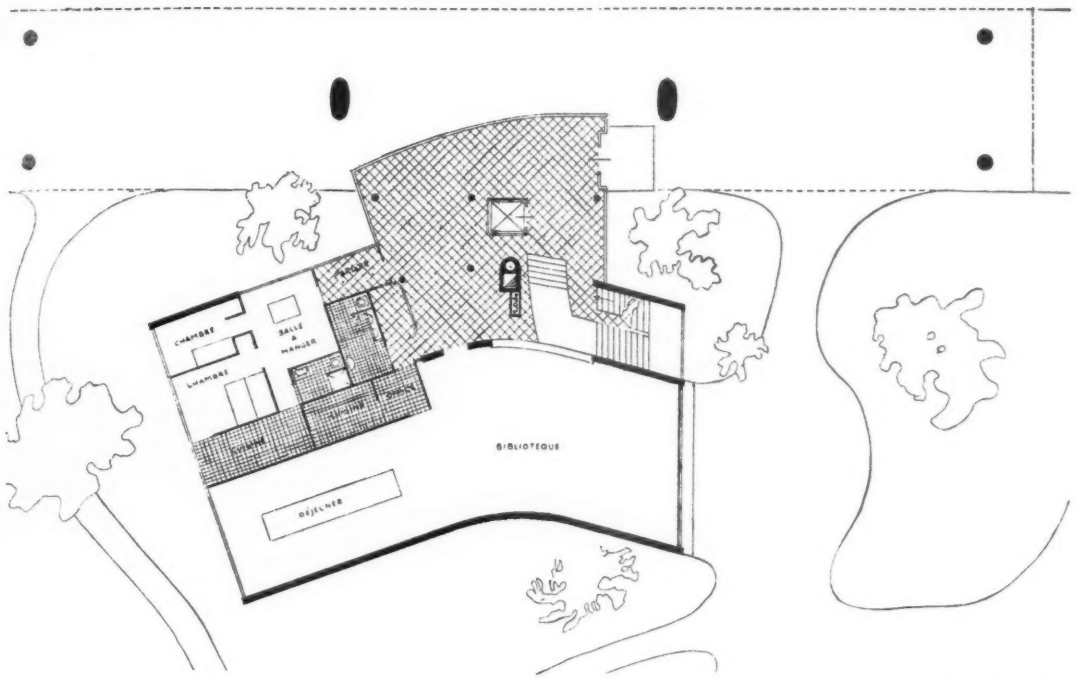
At the same time it is not suggested that this may mean that Engineers must replace Architects, but rather that this period, so anxious to be governed by rationalism, may establish once more the proper place and value of both Science and Art, which have been so far confused. A confusion which is one of the direct causes of the present crisis of world affairs.

The briefest of surveys irrevocably demonstrates that: Materials and immediate technique lead—with method, which should govern both—nowhere.

Whereas, on the one hand, we have for some years had electric saws, drills and polishers to fill the occasionally recurring demands for *luxury bathrooms*, which are hailed as signs of returning prosperity, the recent Bill, which made baths compulsory in housing schemes, omitted to mention compulsory bathrooms to ensure the privacy necessary for the regular employment of the bath as a bath, and we have only recently achieved the "one pipe system." And whereas many Architects must be gratified at having the subtlest technique to facilitate reproduction of Greek motifs and details of another construction on concrete bridges, we have as yet no "concrete code."

Materials are still largely misunderstood and mishandled. Commercial variations which are neither improvements in, nor additions to, the science of building jostle each other for existence in advertisements, and, worse still, in Architects' waiting rooms. Grotesque new uses are discovered for old friends which appear in periodicals for no better reason than that these whimsies "photograph well."

Equally confusing are the ghosts of the past who try



Architectural Press

THE NEW ROMANTICISM OF CONCRETE PLASTICITY

An Hotel designed by Le Corbusier with quite gratuitous curves in the staircase structure unrelated to the simple form of the main block

to re-claim our attention, by rattling Birmabright chains, for a change—or classic statuary wearing broadmindedly glass fig leaves. In fact, stupid fashionmongering has more than done its share to discredit both material and method in the new world.

Cottage competitions which set old riddles, with conditions that these should be solved with new fountain pens, contribute nothing to progress.

It is not progressive to disguise the commonplace to make it appear significant, or the obsolete to bring it up to date. It is essential to select for a specific purpose, within the defined cost, the most adequate material and method. That is to say—that material which best solves the problem of purpose, money and time.

Problems require clear recognition, knowledge and honest decision. Method, therefore, is far more than the technique of application of materials. It stands for the application of technique to thinking.

If such honesty of purpose were commonplace among architects, it would be handed down through them to all others concerned with building, particularly to the contractors and clients whom we have to educate—and thus remove some of the familiar obstacles of new method.

The contractor may find that there are other directions in constructional possibilities than the line of least resistance, and that fifty years' experience is too long a period in ancient history to serve always as a recommendation.

The client would value far more the perfectly functioning organism rather than the well-made-up face, and would demand of the architect to pay more attention to the realities of construction. For instance—plumbing and heating, and less to the representational art.

The removal of such obstacles would effectively prevent the excesses of extravagance on the one hand and of moderation on the other—moderation which is more often than not another name for "misconception" or "complacency"—two of the children of abstract æsthetic education and discussions.

Professor Julian Huxley spoke in a recent broadcast on applied science of "Tradition and Prejudice"

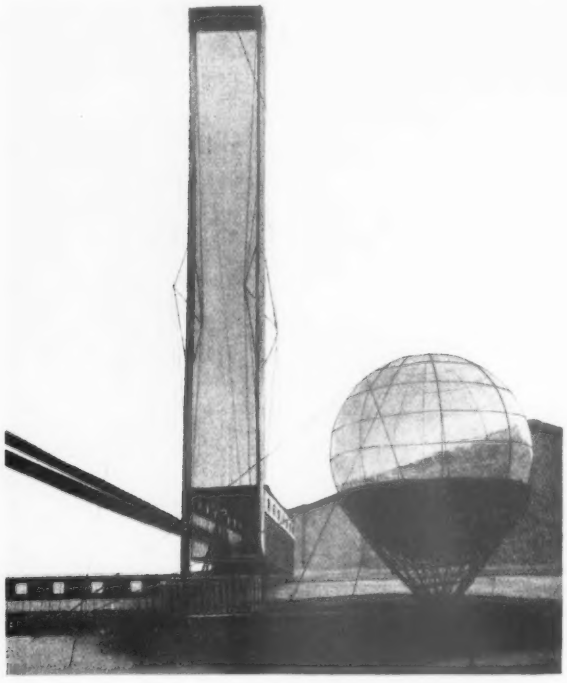
as synonymous terms. Is it not prejudice, however watered down, which pleads to allow evolution to continue today at the measured pace of the past? A parallel in transport would be an invitation to the London Passenger Transport Board to run a few Roman chariots "for old time's sake."

It seems that immediate and urgent problems require immediate facing of realities, in spite of the fact that to-day the dislike of realism is as in the nineteenth century, "The rage of Caliban seeing his own face in the glass."

Complacency can retard a whole generation, whereas experiment is always helpful. Even a *negative experiment is an immediate contribution* to progress.

An analysis of what properly constitutes new method may seem at first purely philosophical. But it is surely quite obvious how inevitably relevant this is to our subject.

It is the presence or absence of these fundamental principles which, in the first place, determines the attitude to method of construction and legislation with which we are concerned; in the second place affects directly the materials themselves, the research in connection with them, their marketing, and obviously the development of their subsequent employment.



DARING CONSTRUCTION

A Utopian project for the Lenin Memorial, with the library tower on the left and the great hall seating 20,000 people on the right.

Appreciation of fundamental principles in reinforced concrete construction leads to the conception of the homogeneity of a framed structure (no differentiation between panel and frame), and the plastic qualities of the material. For example, its suppleness.

The same perfect understanding of material which makes the Sanatorium at Abo a magnificent architectural achievement in reinforced concrete has enabled the architect, Mr. Alvar Aalto, to add a most important contribution to the history of wood as a structural material in the form of furniture in manipulated plywood. Admittedly possibilities of plasticity have led others to commit romantic excesses with which tradition may confront us.

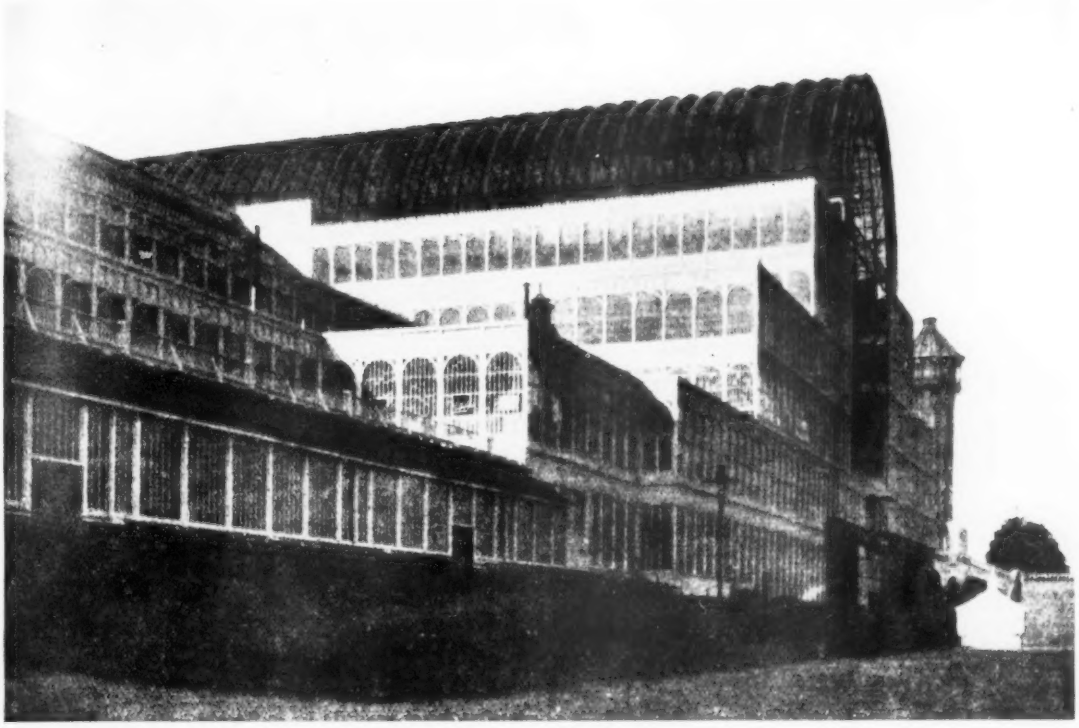
On the other hand it is the exploitation of mere technical facilities which enabled mausoleums to be erected more cheaply in concrete, while imitating the more costly stone, and have given the world gelatine moulds which perpetuate with so little trouble the Aldermanic Arms.

Of the two, "daring construction" appears to have contributed more to progress in concrete, because it has fully exploited the possibilities of the material, and it may be noted that always a far greater talent is required to create Art with the minimum means than with the maximum.

New methods and materials have grown naturally and inevitably, mutually stimulating, out of the beginnings of the scientific age to serve the changes of our social and building activities.

Scientific harnessing of power gave us industry and mechanical transport. Both helped to develop out of iron and the tool and inherent constructional possibilities of the material, which led to its recognition as an elastic, reliable building material. Industry's need of hand power and transport's ability to make the contact between colony and factory called for greater concentration.

These concentrated communities, and the necessity to house them and to provide for their simplest needs, inevitably brought about the *mass* conception with its entirely new structural symbols. Greater strength and lightness in building material are a consequence of increased size, to carry and accommodate the necessary fitting and equipment and resist greater strains.



THE ELEGANCE OF PURE CONSTRUCTION IN THE PIONEER BUILDING OF ITS TYPE

The Crystal Palace, which gave us new architectural forms which show the decorative motifs to be quite irrelevant.

The *mass dwelling*. Flats and settlements, with the planning differences for the accommodation of space-devouring motor traffic, wider thoroughfares, higher buildings in proportion to their width, with their sanitation and other mechanical installation which differentiates the *considered* street of our day from the *slum* of the past.

There came into being the large town and the necessity for greater and higher buildings to meet the requirements of restricted space and property speculation. One of the results of which can be observed in this view at 6 o'clock in Chicago.

Mass Travel.—Railway stations; roadways with tram and bus halts; garages, petrol pumps; hotels.

Mass Shopping.—The multiple shop, the store which was not until quite recently, to quote Mr. Mendelsohn, an ideal display of saleable goods, but a display of unsaleable architecture.

Mass Entertainment.—The latest form, the public swimming-bath, the cinema. The stadium of the race-course and the sports ground.

We are, I think, all agreed that the modern stadium provides better protection and visibility for more people at less cost than the ancient Coliseum did in Rome.

The form is new, while the purpose is merely a revival. It would be interesting, therefore, to take this mass building at one end of the scale and, say, a small domestic unit at the other, and draw a graph on which an architect could indicate precisely where the classic version of form begins to preponderate.

Such a mark could be accurately placed only if the architect were able to see formal expression as a consequence of material, constructional method, time and conditions of life, governed by their position in time.

Parallel to the mechanical and industrial development, the study of health and hygiene demanded of

THE RESULT OF CONCENTRATION : 6 O'CLOCK CHICAGO

our mass structures maximum accommodation to fulfil to even a greater extent new requirements of better sanitation, greater cleanliness, more light, larger windows and improved artificial illumination.

The release, through cantilever construction, of maximum accommodation for special purposes, like clerical work, which requires maximum light, is a demonstrable, scientific fact and not a matter of controversy and opinion.

To compensate the thinness of the new outer skin and enlarged window areas—to avoid the complications of innumerable flues in multi-storied buildings—easier, cheaper and different heating, or alternatively greater insulation against cold and heat loss had to be provided. Noise of traffic demanded greater insulation in materials against sound. These conditions were responsible for the development of synthetic sheeting, of which insulation board, with its remarkable qualities, is probably the most important, and the possibilities of its application appear to be only just touched.

At the same time, while contributing to comfort, the increase of scientific apparatus complicated the accommodation in building of these new additional organs and necessitated the calculated design of what Mr. Morton Shand calls "*a negative skeleton*" for the accommodation of equipment, complementary to the *positive* structural skeleton, leaving the best uninterrupted maximum usable space, a method which is just beginning to oust the more common one of marking the wasted space on plan "duct." Which points to the obvious economic duty of the architect to avoid the waste of room as well as of money.

Scientific economy, with its inherent profit-making, demands the minimum outlay of capital and on subsequent maintenance, without sacrificing convenience, appearance and quality. Which led Poelzig to say humorously: "Architects have to build as cheaply as possible—at whatever cost."

Cost cutting is being effected in two ways. On the one hand we have the natural evolutionary process of growth which has achieved this object of cheapening through the machine-worked materials or machine-made goods. The machine making a unit or part quickly, accurately and economically, in large quantities.

In fact, mass production which is the inevitable purpose for which the first power-driven machine, the modern tool, was invented, complementary to the hand-operated tool of the craftsman.

We also find the deliberate elimination of the costly labour item to achieve a saving. This principle could be admirable where the benefits of the saving are vested in the occupier—particularly in the case of the lower paid worker—instead of taking the shape of additional profit for the speculator.

This principle could consist in the prefabrication of all essential structural parts of the simplest dwelling, and has been attempted on the Continent, in Russia and in America.

Mass production and maximum prefabrication are the good results of the machine.

On the other side we find that profit-making has been responsible for the commercial expedient of turning the machine into competing with the artist and craftsman by reproducing handwork. This is a very widely spread result of mechanisation, in spite of the fact that the implication of machine-production in its final analysis is that of producing exclusively things which in form and cost could have been produced only by the machine.

An excellent example of intelligent standardisation, which is possible in any building large enough, is to be found in the latest work of Sir John Burnet, Tait and Lorne, where the architects are having the concrete casing to the steel frame pre-cast. This solitary example suffices to prove the case for a single, centralised control—here, the architect. Even more important is an equivalent control for the mass of normal materials and articles which, though standardised and interrelated in some industries, at the present, show for the most part few signs of common aims and standards.

The examination of most compartments of the building industry, faced with a serious and common task, suggest that they are catering for a diversity of disconnected planets. To take a few examples:—

Window standard widths : in multiples of 2 feet and 2 feet 6 inches.

Doors, standard widths : 2 feet and 2 feet 4 inches ; standard heights : 6 feet 4 inches and 6 feet 6 inches.

Insulation boards and plywoods share standard dimension of width—3 feet and 4 feet.

The consequent easy combination of these two products has produced, with the insulation qualities of one, and the durability of surface and strength of the other, a new walling material of uncommon thinness which will revolutionise planning, and requires a new elegance of treatment so abundantly possessed by Mr. Mies van der Rohe.

Space-devouring Motor Traffic

On the other hand, the dimensions of the flooring materials are different:—

Linoleum, in 5 feet width.

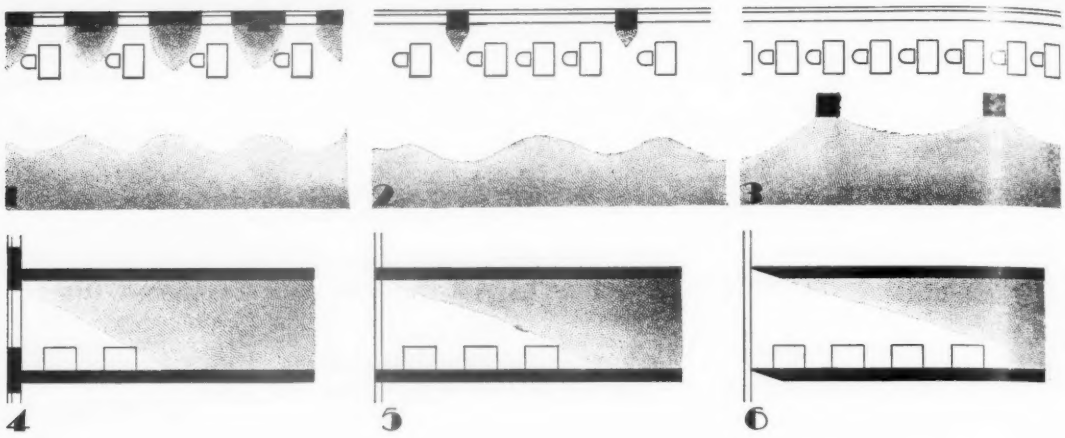
Standard carpet, in 27 inch width.

Textiles: Standard at 30 inches and 50 inches, cannot be combined without cutting to waste.

Few materials required for the making of a building are co-ordinated to facilitate the architect's work in this country, whereas in Japan, for instance, structural components of the normal type have long been standard and related and have facilitated the greatest flexibility in construction without loss of labour, material or money.

The manufacturers unintentionally confuse the issue further through the not unnatural desire to make the world "this or that conscious."

To consider only one case—the glass manufacturers' efforts to make the world "glass conscious." Glass from its humblest beginnings as a transparent skin, to the infinite refinements of which it is now capable —as armour-plate, wire reinforcement, diffusion,



various degrees of obscuration, opaqueness, health ray transmission, hygienic surface and durability qualities—diversity of colour, presents an infinity of opportunities of logical and exciting use of glass, as such, in its context.

But, not satisfied with this, the manufacturers present it as a *substitute for more tractable wood for furniture*, as a slippery, cold and harder substitute for better functioning flooring, and show to the architectural student, in the guise of a semi-technical advertisement in a technical paper, in contradiction of the most elementary principles of acoustics, a design for a glass-lined ballroom, in which no band could play and no one could listen.

But, whereas we can discuss the theory of both new materials and methods, application of either in practice is often misunderstood and misrepresented.

In conclusion, in case my intention is misunderstood, let me explain the conception of realities, science, the machine and mass production—expressions which cover at the same time our business of architecture as well as the social and economic conditions of our time.

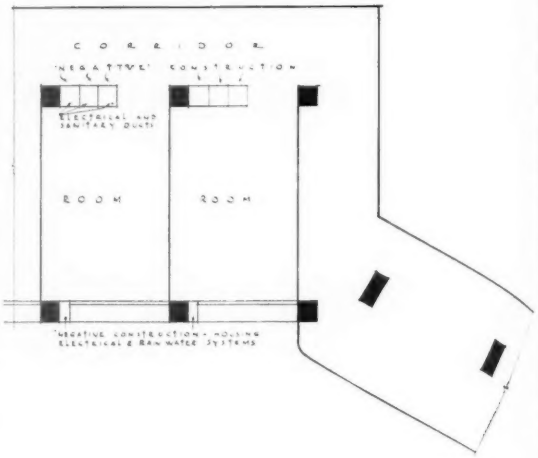
There is no suggestion that unbridled standardisation should replace individualism. On the contrary, there could be a time and place for everything, including individualism. The present does not appear to be the time for individualism, because we are faced with the most urgent problems of reconstruction affecting the lives of millions.

The houses, streets and towns of the most cultured times have never been *the place* where unbridled egotism could thrust itself on society as it is allowed to do to-day.

Cantilever construction as a means of attaining all possible space with the best possible lighting

(Taken from a diagram published in *The Architectural Record*, February, 1931)

Negative skeleton of equipment accommodation as shown in a building at Moscow of Russian workmen's bachelor apartments



There has been much talk in recent years of *Applied Art*. There has been a singular dearth in *Applied Intelligence*.

If we were to employ immediately and intelligently the materials and methods of our machine age, to supply the physical and economic needs of humanity, we would release a society of sane individuals.

If benefits of technical developments could be broadcast to raise the general *standard of living* we should have less *standardised thinking*.

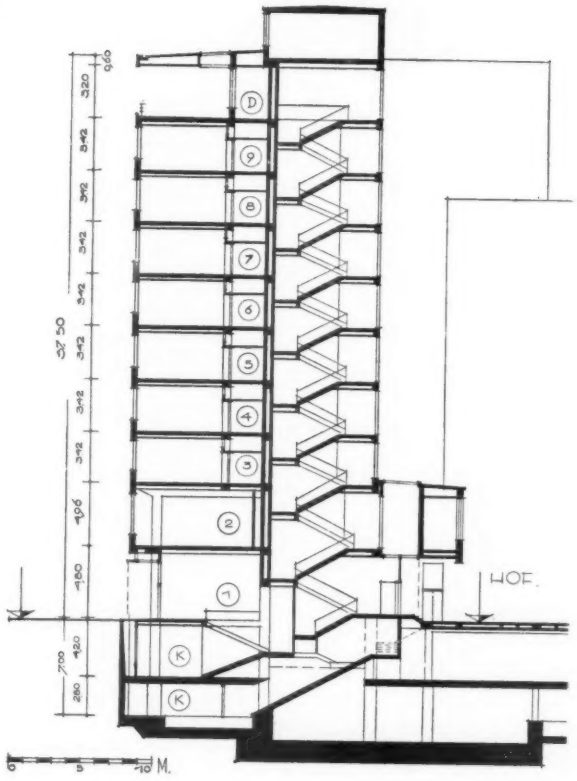
More standard kitchens would mean far less standard cooking. Cooking might even become an Art again.

A sense of physical and economic well-being would make the mass of released individuals once more sensitive to the graces of life.

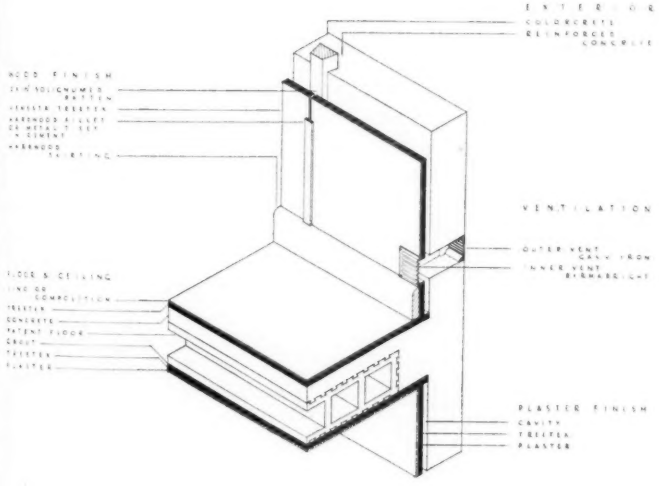
Individualism would develop inwardly to find its outward expression in the philosophies and the arts, instead of mocking us from buildings which are rapidly becoming a procession of advertising hoardings.

There will come into being an orderliness and a stable art which will enable the architect once more to give the world a new expression of creation which it lost in the nineteenth century.

We have an abundance of new materials with which to build it. Now we require new method to make the building possible.



Above: Cross section showing the horizontal accommodation of all services over the corridor in a Berlin office block.



On left: ½-in. insulated wall board employed as shuttering to a 4-in. reinforced concrete structure.

REGENT STREET IN 1827. From a drawing by Thomas Hosmer Shepherd

Vote of Thanks and Discussion

Mr. H. S. GOODHART-RENDEL [*F.*] : Mr. President, ladies and gentlemen,—I have listened with the greatest possible interest to Mr. Chermayeff's paper, and I think that probably everybody in this room will feel what I felt very strongly, a great sympathy with the sanity of his point of view, and a great appreciation of the enormous variety of his illustrations, many of which we should have liked to have seen for longer than the momentary glimpse he was able to give us of them. I think Mr. Chermayeff may have found that the title which was imposed upon him put him in the same difficulty that I remember an artist being plunged into by a tactless question. He had to design for a lady a perfectly modern bath-room, and he was telling us that "The only way to do that is just by using new materials. I am a painter, but I shall not paint a single panel. I shall get all my effect by new materials." A rude person then asked him, "What are new materials?" And when he thought about it he was obliged to admit there were none except reinforced concrete. Mr. Chermayeff has now pointed out in this paper how we can use materials which we have known a long time, for example, and in particular, glass. And, if he had cared to, he could have told us of others, old materials which have not yet been fully exploited in building. I think that actually, at the moment, the world is a little too material-conscious, because I feel always when I listen to lectures about progress, as if we were back in the dear old days of Ruskin and Morris, when people fell in love with things. In those days, it was with hand work, and, now that machines have come, we approach machines with our eyes clouded over with tears of sentiment; we go into raptures without using our thought very much on the subject. We are apt to talk of there being an exact form which is satisfactory for each need of man, an illusion like the one that there was a *mot juste* to express every shade of emotion. Instead of which we find out that there is always a variety of forms, even in the engineer's productions, which "will do equally well." You argue a great deal and you apply your utilitarian standards, but in the end you come to your choice, unless you are an engineer when you think of one thing and say, "That is the only thing." In this paper Mr. Chermayeff was very much keeping in mind the function of the architect, and

thinking both of the things we are forced to use against our will and of those we can use with joy. It is always pleasanter when we are free to select the things we can use with joy, things which have emotional as well as utilitarian significance. Remember that the chief joy of using a thing which will make people's lives more comfortable is the feeling that it looks also as if it was going to make their lives more comfortable; that it will make them feel happy in the improvement you are bringing to them.

The great thing which architects have to face is that it is only architects who want a thing to work and be practical. The average man dislikes that intensely; he likes what father liked. He is very much distressed if you give him anything which points to a new development. An employer who asks to be comfortable is very rare; an employer who wants to be Tudor, or to be homely, or picturesque, or moderately dirty, or rather genteel, is much more common. And if you preach a new doctrine and say, "Why not live sensibly?" he will say to you, "God forbid!" He will say, "We will live in the Tudor fashion." We artists have to struggle on, because we realise that though logic and rationality are intensely disagreeable to our employers, they are the only soil in which art can grow, and we are egotistically interested in art, and not enormously interested in our employers, except to keep them in good temper so that they will keep on employing us. And the utilitarian and rationalistic point of view is the only standpoint from which art can be got out of the mess which a variety of conditions have forced upon it. Much that is offered now is merely a pedestal on which some day to hang an idea. Mr. Chermayeff is right when he says it is leading towards something which is not yet there. But it is a most necessary elimination, a kind of debunking of something; not perhaps what people liked, but what they were proud to pay for. It is our poverty which prevents us building monuments like those of Collcutt and Hare, so we make a virtue of doing without them. As far as progress goes, I think that to have one's eye on progress is a mistake. Nobody remembers who did a thing first; people may be told that So and So did it first, but they forget it; what

Oxford Street To-day

they remember is that So and So did it better than the other fellow. Progress comes if you are keeping your eye on building practically and reasonably, and, above all, with economy, which is a very good school for us. And the good old time lag produced by the British phlegm may be a good quality. You talk about staying progress, but if you are Gadarene swine it is not a bad thing to have your progress stayed, and I think that we, with our extraordinary reverence for the thinking fellows in other countries, would rush into many a sea they are clever enough to avoid, if we had not a habit of scratching our heads and making a compromise. I do not sympathise with the safety-first attitude in the architect, but I sympathise with the man who occupies his building. People do not want their friends to say, "Have you seen the house he has built? I always thought he was a bit odd."

I have not made the usual preliminary apologies for an unprepared speech, but I have rambled so much that I must make them now. I feel upon many topics that Mr. Chermayeff has pointed out the way in which we should all think. What he says in regard to standards is true, that you should not have to cut 29 inch units to fill a number of spaces which are a multiple of 30 inches. There is at present an enormous amount of waste and worry in connection with the thing which you know will not pan out in the space that you want, and it is not always your fault for planning a space which nothing will fit. It is ridiculous the way that nothing ever fits in this country: you can hardly get spare parts for anything.

In architecture there are other materials than physical ones; there are the notions in the architect's head out of which his designs come. It is not bad if in these there should be interchangeable units between many men. We do not want a uniform school, but we have had, perhaps, too much of individualism. I could not laugh at the picture of Oxford Street which Mr. Chermayeff put on the screen for us; I felt that it was a perfect picture of the age which produced it, and I am not sure it was worse than it would have been if that age had sat up and tried to be good. It is certainly time, nevertheless, that we got rid of the individualism which makes people actually proud that the things which are in their heads are not spare parts of any machine but their own, and that no body could do anything with them but themselves. The sooner we get rid of that the better. We scorn the emotionalism of picturesque architecture before the war, but we must avoid the other emotionalism which makes people come over all dithery when they see a good machine and say "That is lovely" when it is nothing of the kind, but just a thing which will work. (Sometimes it will not.)

I ask you to forget these extremely rambling remarks and to believe the great sincerity with which I propose a vote of thanks to Mr. Chermayeff for his address, which is most stimulating, and which we hope to be able to read at our leisure and meditate upon.

Mr. E. MAXWELL FRY [*A.*]: Mr. President, ladies and gentlemen, Mr. Chermayeff, in his exciting and excellent paper, must have felt very conscious that he was talking to the young men of the profession—this room is full of young men, young men who are hopeful yet rather worried, and in need of exactly the sort of instruction which Mr. Chermayeff, in his talk and in his slides, has been giving to us this evening. Mr. Chermayeff knows, as well as Mr. Goodhart-Rendel knows, and as well as I do, that most of the materials which he has been forced to call new are not new in fact. Reinforced concrete is new, because 40 years is a short time in the history of such things. Steel is new, as it only dates from halfway through the last century; but glass has been made in fairly large sheets for a very long time. It is not so much that we are dealing with new materials, though the manufacturers generally find themselves stirred by an emotion for new things which is merely a spilling over from the enthusiasms of the architect who likes to call every material new.

What is new is our attitude towards materials. Our seniors and those men who led a sort of crusade at the beginning of this century attached themselves to, and found their emotion in, a style which suited the end of the nineteenth century a good deal better than the Gothic Revival did. So we, in our turn, have transferred our allegiance from style to structure; the purport of this lecture, so it seems to me, is exactly the recounting of this transfer of our emotions and the transfer of our allegiance from style to the actual materials—new materials and new-old materials of our modern structures. This transference of emotion is being made in an age that I think, without any doubt, is new; and our approach to our problems is new; doctors, for instance, have discovered that what they were after in the last hundred years was not preventive medicine but the curing of disease, we find now that the people who run towns are not concerned so much with rates but with sociology and industry and that there are other things to do than make a profit. It is into this world that younger architects are launched and where they have found their feet. And they have to have the courage not only to make their analyses, but to make up their minds on these points of engineering so that in the use of materials and in structure their buildings may be fitted for their mass and individual purposes. They have to summon courage to do it in the face of the time lag of 25 years, in the face of the Competitions Committee, and in the face of much backward thinking, which will make their task very difficult, even where they call to their aid economy; economy and standardisation alone can lead to the satisfaction of our large new wants in the best way possible. The next twenty or thirty years must be spent in the rebuilding of the rotten parts of our cities—that is to be the main job of the younger generation of architects.

Mr. Chermayeff had much to tell us in his slides as well as in his paper, and most dramatically in the last two slides he showed the urbane and serene architecture

of the beginning of the nineteenth century, and the chaotic mess of Oxford Street in 1933. The contrast shocked me profoundly, and I hope that it shocked many of you, too, into realising the nature of the job which lies before us now, and which Mr. Chermayeff has sketched for us in broad outlines this evening.

I have very great pleasure in seconding this vote of thanks for a very enjoyable paper.

Mr. J. D. HORSACK [*F.*]: I have listened to this lecture, and to the other speeches which have been given to-night, with very great interest, because I think they are very applicable to our present problems in more than architecture. We have one very good ally towards our own profession, and that is the wireless. I have listened to many interesting talks on the wireless, talks which bring home to the ordinary man the value of architecture and the arts in a way which was never possible before. People have been brought in that way to pay attention to the very things which Mr. Chermayeff has been talking about to-night, making them realise what architecture means. The paper gives an impression of the rather chaotic age in which we live. In my early days I was told that architecture was symbolic of the age of the people who produced it, and architecture is now in a chaotic stage. Mr. Goodhart-Rendel spoke of clients who are short of funds, one of our difficulties is to convince clients against the purely monetary point of view. A client asks us: "What is the cheapest way?" and if you suggest something which is out of the ordinary you are asked at once, "Are you sure you will be able to do it as cheaply that way as the other way?" Of course we can generally meet that. But we are living in an age when money counts for more than the arts or anything else, and that is one of the things which prevent greater achievements than we are accomplishing. I hope the day will come when we shall get over it.

Mr. GOULBURN LOVELL [*A.*]: Mr. President, It has been pointed out to us that there are many young architects in the room, and I prefer to address my remarks to them. I come into contact with a large number of students, and I came here to-night to learn something. What I have learned means that I shall have to go back to my young colleagues and say to them, "For God's sake do not attempt to do anything like we saw put on to the screen at the meeting last Monday." If all we have been told is true you will be unable to get your buildings executed; the control of building in this country is in the hands of Local Authorities. We must get them to take the advice of the architects. The last speaker is on an Advisory Panel, and he would turn down any of the suggestions which we have had this evening, and if he did not, the Local Authorities would. I have come from Maidstone, and I am faced with the difficulty of one of these ultra-modern buildings which they have put up on a residential site. We are horrified that the Local Authority could not stop it. Young men may feel certain that, unless they can attune their new efforts to the traditional ideas which have been handed down to them, they are going to encounter failure. There are new materials, and there is no reason why they should not be applied to new design. I know I am an old man, but I am an old man who is getting considerable influence with a number of young men, and if those young men were to try to do what is urged, they would never get a job, because Local Authorities in England would never put up with it !

I think that is all I wanted to say. I hope Mr. Chermayeff will pardon this drastic criticism of his paper, but he invited it !

Mr. L. W. THORNTON WHITE [*A.*]: As one of the young men to whom the last speaker directed his remarks, I wish to say that there is an enthusiasm among the young men in the profession such as will not be stopped by any panels or local boards or local authorities, either in England or elsewhere. I think the young men are determined now to make a proper contribution, not "moderne" or "modernistic," but a sane, logical contribution to the revolution in architecture. Young men have been spoken to by lecturers not only in this Institute but elsewhere, but I have no fears regarding the architecture of the future. We who are young have a great deal to do, and not the least of our duties is the education of local authorities, local panels, and manufacturers, and, more especially, contractors. There is in this country an institution, working very hard to standardise materials and manufactured goods, and that institution could do very much better work if manufacturers were more alive to possibilities. A standard specification has recently been issued relating to pipes, which are standardised in units of feet as to length, and units of either centimetres or millimetres—I forget which—as to diameter. The manufacturers on that Committee were adamant in maintaining this ridiculous anomaly, and it was ultimately found that their machines were bought abroad. There is a great work for younger architects to help in the education and the boosting up of the enthusiasm of manufacturers, contractors, and local authorities.

Mr. ERIC GILL: I feel, sir, that I have no right to speak here, for I am not an architect nor am I a member in any other way; but if you will allow, I should like to support, very strongly all that Mr. Chermayeff has said, from the point of view of one outside the profession. I take this on myself because I have had the honour of being criticised by the President for some remarks I made about machinery and the inevitable progress which, it seems to me, machinery will mark, and the effect it must have on modern architecture. I speak as an outsider, and therefore as one entitled to say rude things instead of polite ones—because it is of no use trying to be polite. The trouble in the architectural world to-day is the desire to have the pudding and to eat it as well; we have eaten up the cake of pre-industrial method and materials, and are still trying to have the icing.

Mr. Goodhart-Rendel has suggested this evening that there were always a number of choices from which one would have to make a selection in any design, and that, therefore, the artistic element was bound to come in as a deciding factor. But take, as an example, that famous

bridge which spans the Forth at Edinburgh, where the under side of the cantilevers was made into a curve because the engineer, or his advisers, had the opinion that bridges had always been curved, and that therefore the most eminent of bridges should be curved, too. That, I submit, is not legitimate choice, but is a choice which you must rule out of the "possibles."

There is a good deal of misunderstanding about the machine age; architects do not remember that buildings, though they may be designed in the office, are not built in the office; they are designed by draughtsmen but are not built by draughtsmen. They should not, therefore, merely represent the culture of architects brought up on drawing-office traditions, nor the culture of the clients, what I may call the drawing-room tradition, but should represent also—I am not, of course, ruling out those cultures—should also represent others. They must represent the necessities of the business of building, they must represent the culture of builders brought up on the job, and also of the workmen working on the job.

I think I can say with assurance that people do not realise sufficiently what a lot of nonsense the unfortunate building operative has to spend his time upon, things which represent neither his culture nor the business in hand. Take a simple example. When printing was invented, the first books were in imitation hand-writing, because it never occurred to anybody to do anything else. But in a number of years, perhaps in one generation, there came into existence printing types which were no longer an imitation of hand-writing; they were a product of the business of printing. The same sort of thing, surely, should happen in architecture. We are not living in the Middle Ages, nor in the time of the Ancient Greeks, why, therefore, should not nineteenth and twentieth century materials and methods be used in the form which is natural to them in our building? We are still being treated to classical columns, and so on, on the front of our buildings—it seems completely ridiculous, and, as one working on the job, I would say it is monstrous. Iron buildings, in fact, ought to look like iron buildings.

I will only say, in conclusion, that under these circumstances the sculptor has, of course, not a proper place on a building except as a person who can occasionally put up something which indicates what the building is, as, for instance, the sign of the sun on the Sun Insurance Office! The old idea of using the sculptor as a man to make a focus point here or there, or to add an enrichment, all that sort of thing must go, and, as a sculptor, I welcome its going.

I have great pleasure in supporting all that Mr. Chermayeff has said.

Mr. S. POINTON TAYLOR [*F.*]: We have had speeches from both age and youth. As being midway between the two, I may, perhaps, be allowed a few remarks.

Perhaps the time has gone, and everyone realises it, when the world considered architects as employed merely to make a building stand up. That is unnecessary, as we know. The Building Bye-laws will certainly assure that, whether architects desire it or not. Therefore we have to decide for what we work. We work, first of all, to make a building in itself function properly as a working building, and, secondly, to provide, because of our training, that element that no one else can provide, or that we think no one else can provide—beauty. What is beauty? I do not know whether any of you can give a better definition than the wonderful one of Keats, when he said, "Beauty is truth, truth beauty, that is all ye know on earth, and all ye need to know." But in the pursuit of that beauty we all go our own ways. Mr. Chermayeff is, I am sure, pursuing beauty in his own way, and so I am sure are we all. I can conceive no architect setting about his job who had not definitely in mind to attain the beauty of sheer function, the beauty of inspiration, and beauty in the finished building. We all have our own ideas and opinions about that. But how shall we find that beauty? If there is any weakness in Mr. Chermayeff's method of finding beauty, and not only his, but the modern method, it is in trying to make a material do things which it should not do. Because I cannot think of a better example, let me say that merely because reinforced concrete can be used to make a staircase like that we have seen,* is there any reason why it should? I do not think so. Because bent wood will make a chair with a big bend, is that any reason why we should make it of that shape? It is important that we should try to make a material do only those things which it can do and which will definitely represent what we think: the idea of line, shape and function.

Mr. ERICH MENDELSOHN: Mr. President, ladies and gentlemen, my English friends—and I am as a guest in this country, and proud to have many friends—are accustomed to say "Mr. Mendelsohn, your English is very bad, but it is very expressive!" Therefore I will tell you a story which I heard two weeks ago in Liverpool. I saw there that very beautiful work of your much honoured and much beloved President, the Cathedral of Liverpool. I saw the whole development of it, from the early stages of the great work to the last; from the first designs to the last act of building. After visiting this beautiful work I was asked "What I found there." I answered, "I have found a thing which I have never seen since or before: I found 150 masons at work, on countless stones, and three mediæval electric cranes! (Laughter.) Ladies and gentlemen, I am inclined to ask you "Why are you laughing?" I think that laughter will be the answer to a good many people here who were speaking tonight and asking why reinforced concrete should be like this. They may ask why should 150 masons working in a mediæval manner be served by an electric crane. In the speech by Mr. Goodhart-Rendel there was a word which spoke the real thing: the 'basis.' The *basis* on which we must go to find a solution is what we must seek. I agree very much with Mr. Goodhart-Rendel that we should have this basis. Therefore in one way we are not going back, though in another respect we are going back to the past. For that reason Mr. Chermayeff shows us that last

*Mr. Erich Mendelsohn's staircase in the Metalworkers' Union, Berlin.

picture, of Oxford Street in 1933, to make clear that we must have a basis to develop a new kind of culture. I think that without the right basis we cannot have development; and that to find the basis of our new world should be our aim. Without the basis there is no development, without structure no details, no decoration, and without common feeling, no individualism. Therefore we are trying to look after the materials, not to find a fancy dress or fancy things in new materials, but to show the possibilities which are lying in them. The expression of the possibilities of new materials is an exciting thing, a stimulus to go on trying to find the basis, the truth of the material; then afterwards there will come a new generation which will find truth, which will be a balance between the experimental and the static, a sound development with the new materials.

Mr. CHERMAYEFF (in reply): Mr. Mendelsohn has been good enough to answer the speaker before him much more adequately than I could have done; indeed he did more than answer, he disposed of him. It is irrelevant to talk about æsthetics, and to talk in abstract terms. You cannot build a staircase with æsthetics, and, naturally, I could not produce the staircase I showed on the screen for you to walk up it and test it out. I could only project a picture of it. And there is no reason for a staircase to go up like that except the one fundamental reason that the staircase must go up, and that is a good and sufficient reason.

To go back to what Mr. Goodhart-Rendel so admirably said, there is a sort of misunderstanding of both art and the machine. Progress is not merely a quality of newness; there are too many people who go about criticising new work as if newness in itself was a virtue, saying: "Yes, this might be very good, but it has been done before," which is irrelevant. The æsthetic emotional appeal of the machine is part of that misunderstanding. Nobody is asked to go mad with joy at the sight of a machine, nor are they asked to worship before a machine-made product. Surely it is up to us, with our intelligence, even with average intelligence, to put the machine in its proper place. Machine products are here to serve us, not to be made gods of. The trouble is, we try to express ourselves in terms of the pots and pans of ordinary machinery, of everyday living, instead of accepting it as our prerogative and right, so that we can have leisure to enjoy that truth which is not expressed by pots and pans.

Mr. Maxwell Fry said that our job is to build what is wanted, and I think that is true, too. It certainly is not our job to do what I am doing tonight, that is, merely talking. Our job is to conserve our energies and to go on working. And in view of the crisis of our times I hope we shall do so; we that shall see the tremendous importance of solving these problems in reality. I hope we may be gathered here, in this Royal Institute, one night, and see the Gold Medal presented for the best type of design in unit minimum houses for the lower-paid worker, instead of seeing it given again, as it has been given! I do not know how many times, for the best Bank elevation.

Architectural Press

A Bus Shelter in Russia

Scientific Proportion

By G. MAXWELL AYLWIN, F.R.I.B.A.

At various times the philosophy of art has been put to the test of exact knowledge, or at any rate attempts have been made to find the point at which science and art, knowledge and feeling meet. Generally this has taken the form of a testing of the acknowledged masterpieces of architecture with empirical systems of geometry. It is interesting to note that Le Corbusier, in his recent book, deals with this type of more or less self-imposed restriction.

But however historical record may appear to confirm the existence of overbearing rules of form, the analytical mind is left so far dissatisfied in the feeling that the empirical rules are no nearer to exact science than a blind reliance upon instinct. The conviction that both feeling and knowledge lead to the same truth tantalises the more as vague evidence accumulates.

Let us illustrate the idea in plainer fashion. Consider a cat taking a leap from some elevation down and across to some small and precarious foothold. Without thought or knowledge of the certain natural laws of gravity, trajectory, dynamic force, and equilibrium, the animal instinctively measures distance, energy and direction and lands with certainty upon the determined spot. On the other hand, consider the firing of a big gun, brought to bear upon some distant and possibly invisible target. Exact calculations as to bearing, elevation and charge are made, and the target is duly hit. Does not this suggest two exactly parallel performances, completed in the one case by instinct and in the other by exact knowledge? Raising this class of parallel to a higher plane, cannot we accept the hint that artistic instinct and scientific knowledge can, and do, in accordance with high purpose, approach the same truth?

Functionalism acquires a more complete meaning if this angle of approach to the quest is chosen.

It is true we are handicapped as human beings on both hands, being so far from the divine in knowledge and instinct as to miss the mark more often than not. And, of the two, we may agree that knowledge fails more often than the higher instinct; for even the cat fails to reach the foothold less often than the shell misses the target.

But so far as we have knowledge let us use it. Let us, in fact, apply it in the first place to the proportions of structural voids.

In the classic school we have been trained to feel that the void of a vertical proportion is architecturally more satisfying than one of square or squat proportions. With memories of the masonic origin of accepted proportions the vertical shape is easily understood, in that the relative weakness of the stone lintel and the strength of a stone column would very reasonably influence the shape of void.

It is not unhealthy introspection that has induced some sections of the modern school to enquire whether this tradition in proportion has not become superseded by modern constructional methods.

The steel and reinforced lintel is a far stronger unit, size for size, than the stone lintel, and at first sight it may appear that this fact alone must introduce a revolution in natural proportion.

In certain schools of design this conclusion, which is really no more than an idea, has been hastily adopted as a ruling principle, with the result that the vertical proportions of a long tradition have been exchanged for a horizontal motif strange to see, and, to those not too much obsessed with the virtue of change for the sake of change, lacking in the graces we have learned to love.

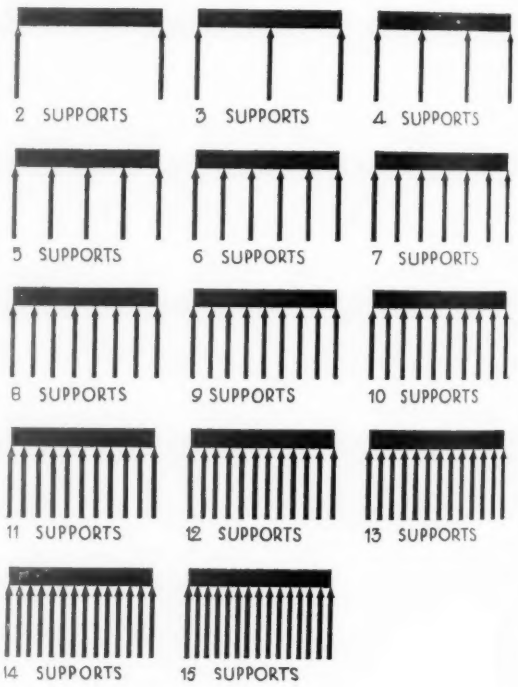


FIG. 1. A series of methods of supporting 40 feet of lintel from which the calculated weights have been plotted in the following diagrams. In all cases height is 20 feet, overall width 40 feet and superimposed load 100 tons. Material: steel.

It will therefore be helpful if we consider the structural composition of support and beam in a purely theoretical way.

Fig. 1 shows a number of ways of building up a system of supports and beams to complete a certain size of element including extreme measures. At one end of the scale is a system of two powerful supports carrying a single powerful beam. At the other end of the scale is a system of many supports carrying a series of light beams. Somewhere between the wasteful extremes is an ideal economy of material, and, by assuming figures, we can calculate from scientific data the amount of material in each system.

For the purpose of the experiment we adopt steel as the material, with solid round columns and solid square beams. These forms are taken to simplify calculations, but it may here be said that more rough and ready calculations with "H" section joists and stanchions have been tried with results not widely differing from these.

A distributed load of 100 tons upon each system forty feet wide and twenty feet high has been taken.

Fig. 2 shows a table reading horizontally the various proportions of height to spacing from centre to centre of

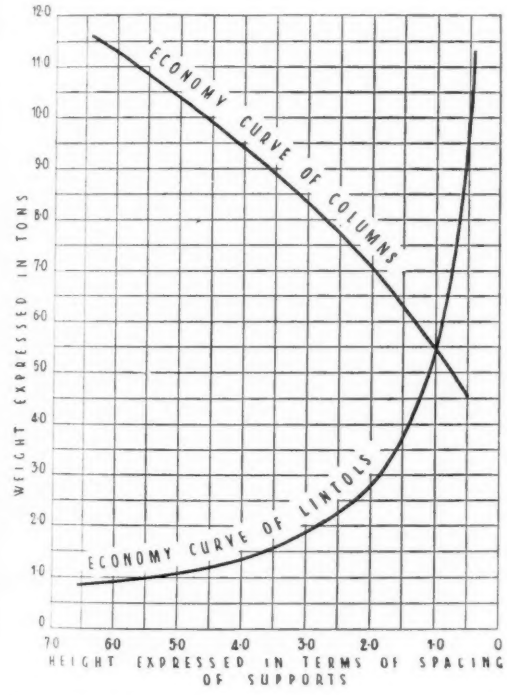


Fig. 2.—Weight chart of a structural system with height 20 feet, width 40 feet and distributed load 100 tons

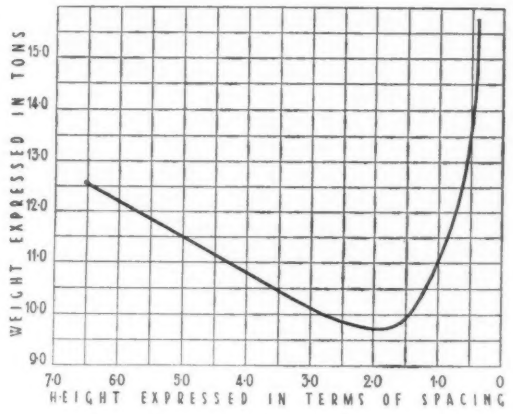


Fig. 3.—Curve of economy in material combining the curves of columns and lintels in the last diagram

support and reading vertically the weight in tons of the material relating to each change of spacing. The co-ordinates plot two curves, one relating to the weight of material in the lintels and the other to that in the supports. The curves illustrate graphically how the narrowing of the spacing makes for economy in lintel material, and for extravagance in column construction. In the case of the latter it will be noticed that the extravagance in lintel material becomes increasingly exaggerated as the proportion of height to span is decreased, and that the extravagance in column material increases relatively slightly as the proportion of height to span is increased.

Note also that the point where these lines cross registers the system in which the material in the lintels equals the material in the supports, and that in this series this occurs where the unit is square.

Although we are using a strong modern material, we can thus see diagrammatically that the burden of span still bears hardly upon us. We can only create broad voids at expense, and in using the word expense we must understand it not in a commercial sense measured in pounds, shillings and pence but in a more æsthetic sense, as material used in just an adequate way as nature uses it at its best.

In Fig. 3 we have a diagram similar to the last but having the weights of column and lintel material added as a total. The curve illustrates how extravagance enters into the composition at both ends of the scale, while the turn of the curve registers an ideal economy of material. We find this reads to approximately 1.9, and if we allow a width of column to be deducted from the spacing to give the clear void, a value of approximately "two" is arrived at as the economic void of this modern composition in a modern material.

Note that whereas the curve rises on either side of the economic minimum, that on the right is much steeper

than that on the left, the latter side rising ultimately to infinity; in the one case where an infinitely big lintel spans an infinite distance, and on the other rising only to that point of extravagance where the closely spaced columns develop into a solid wall of steel sufficiently stiff to stand under the weight. This indicates that the rule of economical material is infringed less by a decrease in the spacing of supports than by an increase, suggesting that whereas the closer spacing of Classic columns is frequently observed, a wider spacing is rare, and by this means easily understood.

In Fig. 4 is drawn out this economic void, hatched in; and round this scientifically developed proportion is drawn in an outline setting out of a bay of the Roman Doric Order with columns spaced to agree with a four triglyph setting out—a wide, but not unusual spacing in traditional example. The order has not thus been made to fit the space, but arrives by the traditional rules we normally observe in connection with Classic orders.

The surround is thus a composition which generally satisfies the architectural eye, and which has a definite origin from temple design in stone, while the void is a proportion we have calculated scientifically as an economical spacing in a modern material. Instinct and knowledge meet to the comfort of our minds.

Now surely we may conclude from this that there are certain natural laws of structure which no ingenuity on our part can alter. And that signifies that the natural structure, which calls for no setting aside of the natural laws, is of a kind similar to those ancient colonnades from which so many of our familiar architectural forms derive.

True we can make wide proportional voids which on occasion serve a real convenience. There we are wise to make use of our powers. But such exceptions to the structural nature of everyday building must not dictate the type.

And I emphasise, in conclusion, this evidence which confirms a natural antipathy for thoughtless change. An architectural code which defies the natural laws of structure for no other reason than to differ from what has gone before is foredoomed to failure.

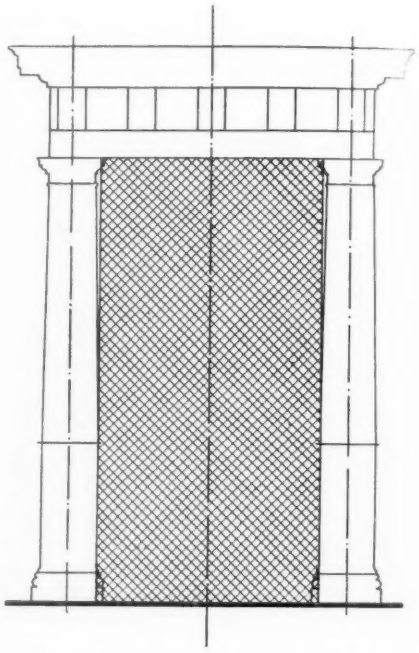
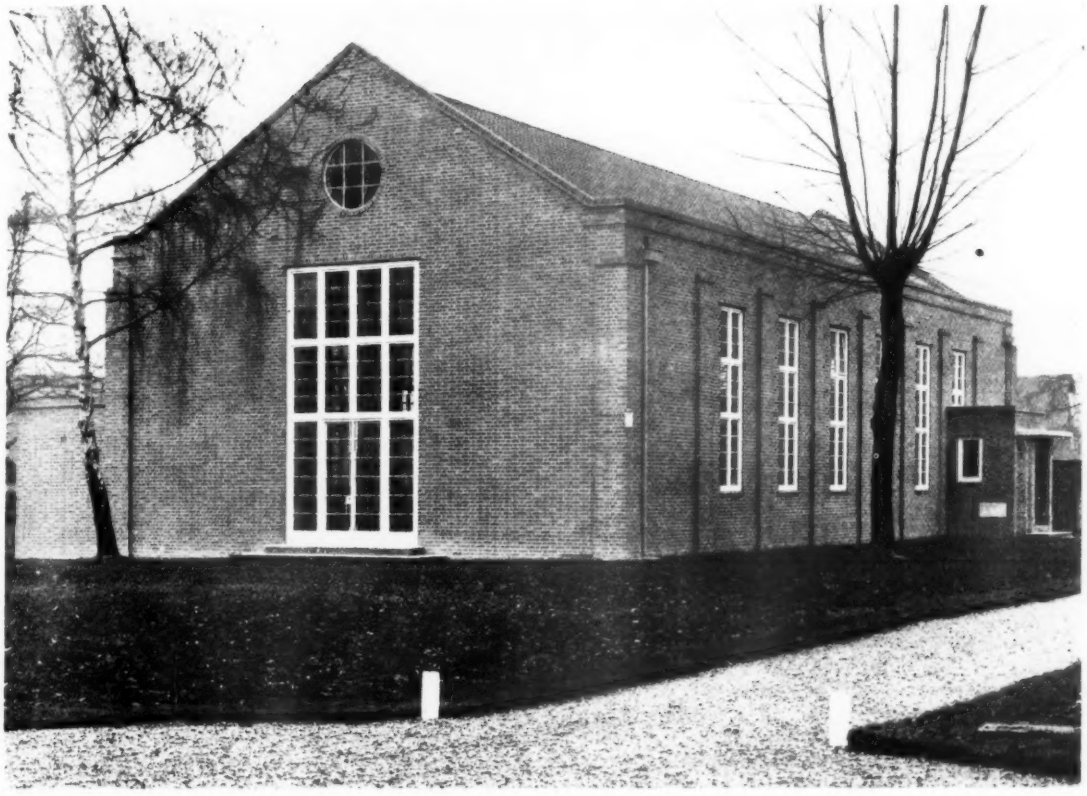


FIG 4.—The calculated void arrived at from the foregoing weight diagrams:

Round it is plotted the outline setting out of the Doric Order with a four triglyph spacing set up by the traditional rules. The voids almost exactly coincide, although the scientific calculations were for steel while the order is essentially stone.

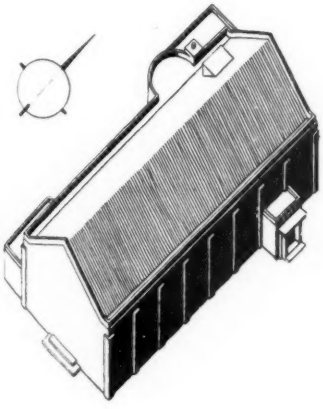
ARCHITECT AND SURVEYOR TO THE COMMISSIONERS OF CROWN LANDS

Applications are invited for the Post of Principal Architect and Surveyor to the Commissioners of Crown Lands. Candidates must be not under 38 and not over 45 years of age, and must be fully qualified to deal with all classes of urban property and in particular must have practical experience in Working-class Housing. Present scale of salary (approximately)—£995, rising by annual increments to £1,145, and the selected candidate will be required to give his whole time to the Commissioners' service. A preference will be given to candidates who served with His Majesty's Forces during the Great War. The holder of the post will be eligible for pension on retirement, in accordance with the provisions of the Superannuation Acts. Applications, which should be accompanied by full particulars of qualifications and past experience and copies of three testimonials, must be addressed to the Secretary, Office of Commissioners of Crown Lands, 55 Whitehall, London, S.W.1, and will be received up to 8 January 1934.



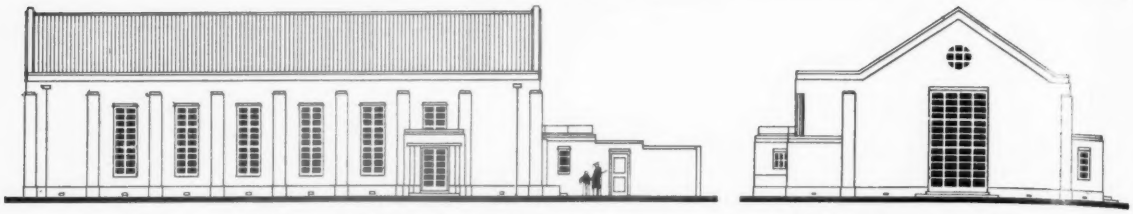
THE GYMNASIUM, BEDFORD SCHOOL

Architect: O. P. Milne [F.]



General.—The building stands on an open site, surrounded by the junior playing fields on three sides. The open-air swimming pool is on the north side.

Structure.—This is somewhat similar to that of the Science Building illustrated in our 9 December number, in that the facing bricks and pantiles are from local sources and the sand lime brick backing is left as an internal facing with cream cement pointing. The roof is supported on exposed steel trusses painted royal blue, the ceiling being of wallboard (Insulite) distempered cream; the acoustic absorbent effect of this ceiling materially reduces the reverberation period, which is often unpleasantly long in gymnasiums. The same wallboard is used on the gallery front and soffit. The windows are of steel, painted green, in wood frames painted white. An ordinary joist and sleeper wall construction carries a board floor of bajac (*Dipterocarpus Sp.*), which is a hardwood from the Philippines that does not splinter easily. Heating is by low pressure hot water, the radiators being set under the windows in recesses spanned by reinforced concrete lintels; the cills are of black tiles. The staircase, which is very well placed, has treads and risers of bajac. Doors generally are stained green and fitted with wired glass.



EAST ELEVATION

SOUTH ELEVATION

Arrangement.—The Board of Education recommendations on gymnasiums are contained in their Circular No. 1363 and in Education Pamphlet No. 86. This gymnasium was not under the control of the Board, but the recommendations were observed except in some instances where it was thought improvements could be made or where they conflicted with the Army Regulations, which were followed in order to agree with O.T.C. requirements. The cills of the side windows are lower than has hitherto been considered desirable and the large end window, the lower part of which opens as doors, is an innovation. The architect incorporated these two items in order to give an open-air feeling to the interior. In form and equipment this gymnasium can be regarded as a model, except in that it is not usually used for ball games. A light mesh screen is provided for placing over the end window if it is so used. The gallery also is larger than usual and has a flat floor so that it can take a second boxing-ring.

Equipment.—The usual sizes of equipment are: Boxing rings, 14 feet by 14 feet, 16 feet by 16 feet, 18 feet by 18 feet, 20 feet by 20 feet. An extra width of 2 feet all round for guy ropes and the mat must be provided. The size used here (16 feet by 16 feet) is that recommended by Army Regulations for boys. Wall bars are 9 feet 2 inches high (sometimes 8 feet 2 inches high for girls). Climbing ropes of Indian hemp (not Italian) are spaced at 2 feet centres and one tricing line is required for every six ropes. Swedish beams are removable and are obtainable in several sizes; the one fitted here is 16 feet long. Horizontal bars need a plan space of 15 feet by 12 feet (approx.) including guys and mats. Punch bags should be spaced at 4 feet centres minimum.

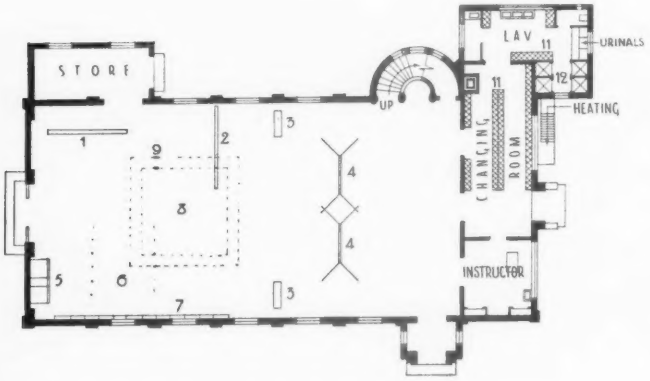
CONTRACTORS AND SUPPLIERS

GENERAL CONTRACTORS: Samuel Foster, Ltd., Bedford.

STRUCTURE: Steelwork, Aston Construction Co. Facing bricks, C. Franklin, Bedford. Sand lime bricks, Grovebury Brick Works.

STRUCTURAL FINISH: Windows, Williams and Williams. Wood flooring, Acme Flooring Co.

EQUIPMENT: Electrical and heating work, H. Bacchus, Bedford. Sanitary equipment, George Jennings (Lambeth), Ltd. Ironmongery, Comyn, Ching & Co. Gymnastic apparatus, Niels Larssen, Leeds, Clocks, Synclocks.



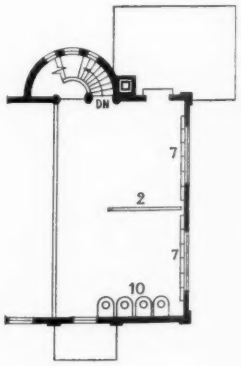
GROUND FLOOR

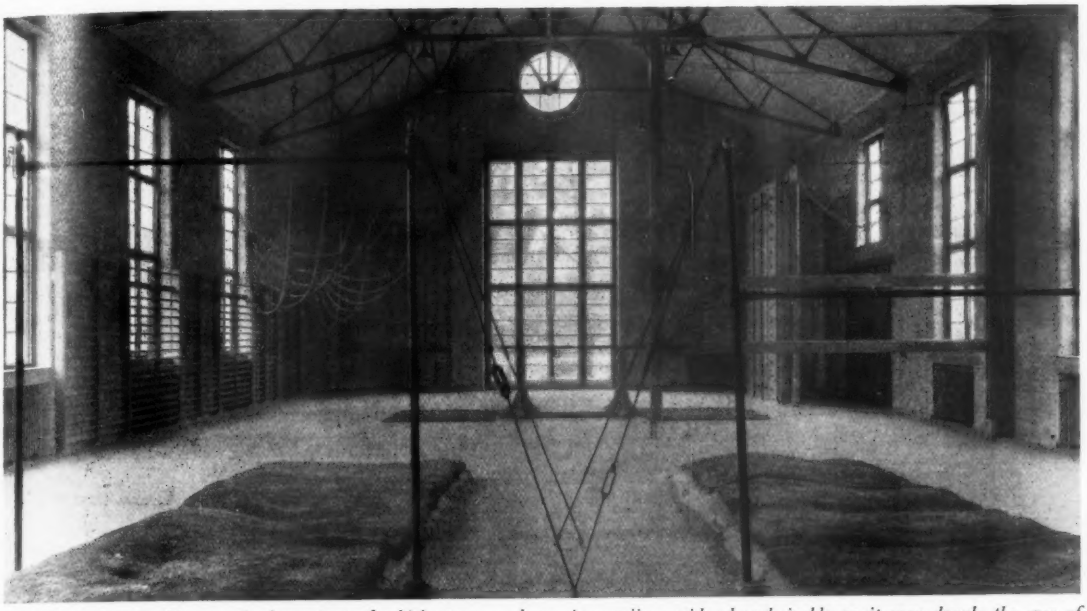
10 0 10 20 30 40 50 60 70 80 90

SCALE OF FEET

Reference:

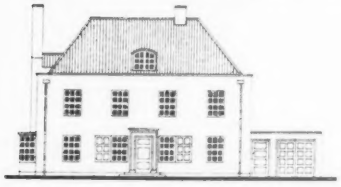
1. *Escalating Board*
2. *Swedish Beam*
3. *Horse*
4. *Horizontal Bar*
5. *Window Ladder*
6. *Climbing Ropes*
7. *Wall Bars*
8. *Portable Boxing Platform. Ring, 16 ft. by 16 ft.*
9. *Hand Rings*
10. *Punch Balls*
11. *Lockers*
12. *Showers*



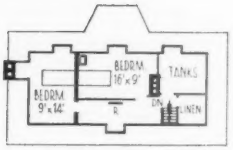


An end window, in this case the lower part of which opens as doors, is usually considered undesirable as it may dazzle the eyes of pupils running at obstacles. It was, however, purposely provided in order to give an open-air feeling to the interior and to admit south sunshine and to allow classes to be moved readily out of doors.

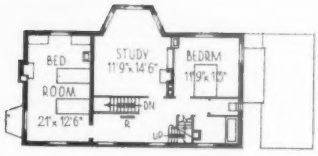
A view of the entrance end showing, left, how radiators are recessed under concrete window cills *The gallery extends over the changing rooms and has a flat floor to take a second boxing ring; the staircase is well placed.*



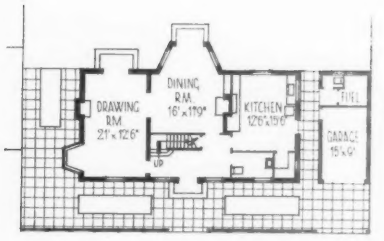
EAST ELEVATION



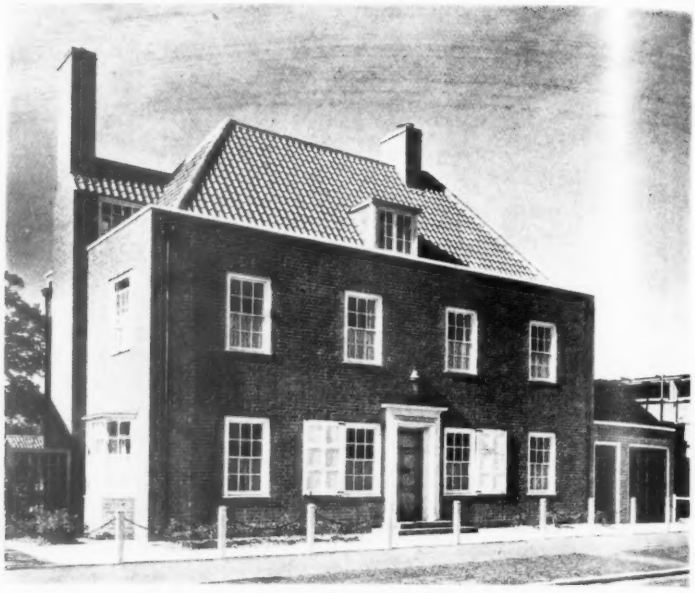
SECOND FLOOR



FIRST FLOOR



GROUND FLOOR



HOUSE IN PARKWAY, WELWYN GARDEN CITY

Associated Architects: Louis de Soissons [F.] and A. W. Kenyon [F.]

Built up to a street line, the house is separated from the public footpath by posts and chains and a paving of pre-cast concrete slabs. The materials are local facing bricks and machine-made pantiles. The front door is of oak and the lamp (by Eric Munday) over it is painted green. The cost was £2,200, including oak floors in the hall and living rooms and radiators in the hall and landings. The general contractors were Shadbolt and Nash of North Mimms, who also made the joinery. *Photographs by Herbert Felton, F.R.P.S.*

The garden side of the house; the wood windows are painted cream

Review of Construction and Materials

This series is compiled from all sources contributing technical information of use to architects. These sources are principally the many research bodies, both official and industrial, individual experts and the R.I.B.A. Science Standing Committee. Every effort is made to ensure that the information given shall be as accurate and authoritative as possible. Questions are invited from readers on matters covered by this section; they should be addressed to the Technical Editor.

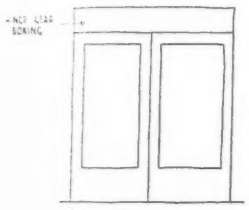


FIG. 1

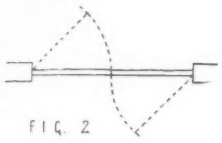


FIG. 2

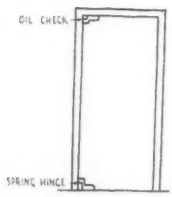


FIG. 3

SOME NOTES ON DOOR SPRINGS

The following article has been written in collaboration with the Building Centre. The greater part of the apparatus here described can be seen at the Centre, 158 New Bond Street, W.1.

Types of apparatus for automatically closing doors are obtainable in great numbers and with a wide range in price. In selecting a door spring it is desirable first to consider the amount of work which it will have to do. In busy offices or shops the spring may have to operate many times a minute, and continue to give good service for years without attention. In such cases it is folly to specify a cheap fitting, as the saving may be more than swallowed up in repairs or replacements within a few years. With door springs, the degree of service obtained relates fairly accurately to the price paid.

It is not proposed to describe here the attributes of the various types, which are in any case fairly well known, but first to summarise the points which have to be considered by the architect in making selection, and secondly to report some recent developments and to make suggestions for improvement. A good summary of types is to be found in the "Ironmonger" section of *Specification* (The Architectural Press).

After consideration of the degree of use to which the door concerned is likely to be subjected, the following points present themselves.

Appearance: here the floor spring scores over the type fitted at the top of the door. Visible metal work can usually be obtained to match other door furniture.

Oil leakage: some floor springs are bad offenders in this respect, while almost all overhead springs are free from this defect. This point is of importance when absorbent floor materials, such as marble or wood, are to be used.

Adjustments: easy adjustments for alignment and sagging of the door should be required in a good floor spring.

Fixing: certain types of fire-resisting floor will not accommodate deep floor spring boxes; boxes under 2 inches deep are obtainable and function well, but 3 inches should be provided when possible.

Waterproofing: where floors are hosed or even scrubbed, a waterproof floor box (or overhead spring) is desirable; though the materials of the apparatus may resist corrosion by water, the latter is liable to carry dirt and grit to the bearing surfaces or retard action.

Wind pressure: the makers should be informed of cases where wind pressure is liable to be excessive so that stronger springs can be provided. In one floor spring, maximum pressure is exerted when the door is shut, diminishing as it is opened.

Weight of door: where unduly heavy hardwood or metal faced doors are provided, the makers should also be consulted, since not only have bearings to be proportionately substantial, but heavier doors need stronger springs.

Removal: in some cases seasonal removal is required, as between departments in shops during sale times or in the summer; ease of removal and absence of projections in the doorless opening should be considered. It is usually necessary to fill sockets and other holes with bitumen, which has to be laboriously dug out when the door is replaced.

Expense of fitting: the floor type is naturally more expensive to fit than the overhead type; in terrazzo or mosaic floors spring boxes should always be fixed before the floor is laid, otherwise it is almost impossible to make good neatly round them.

Among recent developments, the Gibbons "Link-hung" overhead gear really creates a new type. The whole of the mechanism is housed in a box the width of the door placed either above or just below the lintel (Fig. 1). Water or grit cannot affect it and the large amount of space provided permits sturdy construction. The doors can be single or double swing, or they can be interconnected so that pressure on one leaf also operates the other, usually called "sympathetic action." In the case of the doors fitted at the entrance of the Building Centre, the two leaves are counter hung, so that one opens the opposite way to the other (Fig. 2). The principal defect of this arrangement is that a person opening one leaf by pushing may be struck by the other leaf opening towards him; this can be largely overcome by placing the pull handles or push plates some way in from the edge of the meeting style. An advantage of this arrangement is that wind pressures on the two leaves cancel out, permitting light springs to be used. An ingenious overload device permits both doors to be forced in the same direction in case of panic (Jas. Gibbons, Ltd., Wolverhampton).

In another new type the return spring and oil-check are separated (Fig. 3), being housed in the bottom and top shoes respectively ("The Conqueror," by Jas. Adams, 105 Union Street, S.E.1). The whole fitting is very neat; adjustments for alignment and sagging of the door are provided. The oil

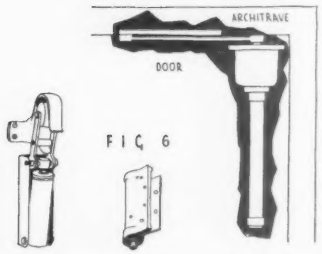


FIG 4 FIG 5 FIG 7

check being in a solid cup at the top of the door cannot leak, while the spring is above floor (and therefore washing-water) level. The only floor fixing is a plate bearing a square boss; this not only makes fixing easy in any type of floor construction but permits complete removal without leaving a sunk box which has to be temporarily caulked with bitumen. This spring (and the same remark applies to other shoe springs) necessitates a good deal of cutting away of the tenon of the door; this is to some extent made up by the fish-plate effect of the shoe and its bolts, provided the joiner fits the shoe tightly to the door.

An ingenious attempt to reduce the amount of spring power is made in the "Dictator" (R. A. Beaufoy, 19a Coleman Street, E.C.2). It operates as an accessory to an ordinary light spring of any type, returning the door to a partially shut position.

A colonnade of the Parthenon floodlit

Fixed at the top of the door, it "takes charge" when the door is almost shut, and a strong spring, with a hydraulic check action, slowly but firmly forces the door over the catch of the lock. (Fig. 4.) Those who are interested in ingenious applications of mechanical ideas may note that the spring will pull the lever arm downwards on either side of a top dead centre. As the door is opened, the upper cam arm forces the lever over top centre so that it lies in a horizontal position, pointing towards the door lintel. As the door is closed by the light accessory spring the lever arm strikes the lower cam, is forced upwards and back over top centre, the strong spring pulling the lever down on the other side against the inner side of the cam arm and firmly closing the door.

It is not always necessary to provide a light accessory spring; rising butts are sufficient to provide the initial movement. Moreover, it is almost the only fitting which will prevent an ordinary door from being slammed; in other words, render the ordinary door always silent. This is often required in nursing homes or hospitals. Fixed in conjunction with ordinary butts it controls the door only in its last inch or two of movement and however hard the door is pushed, shuts it silently.

An American hinge of a new type is the "Rixson" (The Oscar S. Rixson Co., 4450 Carroll Ave., Chicago). No part of the mechanism is visible when fixed, since it is housed in the style and top rail of the door. (Fig. 5.) It was primarily intended for hollow metal doors of the kind popular in America, but a model for wood doors is marketed. The cost of fixing in a wood door must be high as the cutting away is mostly deep chisel work on end grain. The top tenon in an ordinary framed door must be left with negligible strength, but the spring should be admirably suited to built-up solid-core wood doors. Obviously it is an advance in door-spring practice to have a fitting which is completely invisible. We have been unable to discover if this spring is marketed in England; we would be glad to hear if it is.

Another type of spring that may be included in this discussion is the "Vanguard" (Wm. Newman, Hospital Street, Birmingham). Both spring and check action are neatly contained in the hinge fixed in the same position as an ordinary butt. (Fig. 6.) Fixing is easy and cheap. Somewhat similar is the "Hawgood" (Protector Lamp and Lighting Co., Eccles), which is perhaps not suited to so many kinds of door as is the "Vanguard." It will be seen that the door will "stay put" when fully open (Fig. 9), but is liable to move suddenly when pushed over the corner of the cam. It is, however, very sturdy and will stand a great deal of very heavy work. The drawing shows it in the position taken up when the door is open.

An improvement might be made in the construction of door shoes, which would both reduce fitting costs and give a more positive grip. Usually, the shoe is a solid casting made to be housed into the door and finishing flush with the face of the woodwork. (Fig. 8.) Apart from the labour cost, strength is to some extent dependent on the care shown by the joiner in fitting, and in any case does not allow for shrinkage of the wood. This defect could be overcome by making the casting in two pieces. (Fig. 9.) Such a fitting would do for any reasonable thickness of door and the screwing of the two plates together would give a really tight grip. Chamfered edges to the plates would give an appearance practically as neat as the sunk type. On the vertical heel of the shoe the joint would have to be near the centre so as to be unnoticeable. Something of this kind has already been provided in a cheap shoe spring made in Germany; the idea is worthy of adoption in better class work.

[The foregoing article has been written in collaboration with the Building Centre.]

Floodlighting of the Fitzwilliam Museum, Cambridge

FLOODLIGHTING

We have received a reprint of a very interesting and useful article on Floodlighting by Mr. Thomas E. Ritchie, A.M.I.E.E. Chief Illuminating Engineer of the General Electric Company. The practice of floodlighting buildings has come in for a good deal of criticism by architects, mainly based on the infantile ailments from which it has undoubtedly suffered. Mr. Ritchie's paper does much to reconcile the conflicting ideas of architects and engineers and provides a reasoned technique for what he claims to be a new art. He examines in detail the six principal objections usually offered to floodlighting and, though his arguments at times lean towards special pleading, he offers really practical solutions of the difficulties on which those objections are based. For example, in discussing the statement that "The sense of depth is lost," he illustrates the successful floodlighting of the Fitzwilliam Museum (see above), pointing out that not only have four distinct planes of light been achieved but that neither the columns nor the figures in the pediment have lost roundness. As an example of the magnificent effects which can be achieved he illustrates the floodlighting of the Parthenon (see preceding page).

His examination of the reflection values of different surfaces is of great interest to architects, partly because it produces striking evidence in favour of the periodic washing of buildings. Several typical buildings were examined, in each case the average reflection factor was determined as the mean of a number of carefully conducted photometric measurements made on partially cleaned buildings. For example, during the washing of the City Temple in London the surface of the clean upper storey was found to have a reflection factor of 47 per cent., while that of the still grimy ground floor was 6.4 per cent. In the case of a glazed brick light well the reflection factor of the cleaned surface was, in the most favourable direction, 89 per cent., and of a portion which had not been cleaned for twelve months was 49 per cent.

Washing of buildings has long been advocated by the R.I.B.A. Science Committee, principally as a means of preserving stonework. From Mr. Ritchie's figures it would seem to have no small influence on the daylight illumination of lower floor rooms in narrow streets and courts where the wall surface opposite acts or should act as a reflector. But Mr. Ritchie's

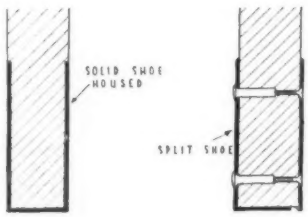


FIG. 8 FIG. 9

main purpose is to prove that both the effectiveness and the cost of floodlighting are greatly influenced by the washing of buildings. In the case of the building of the Institution of Electrical Engineers Mr. Ritchie is of opinion that washing would have increased the reflection factor from 11 to 39 per cent. This building was floodlit recently with 26 lights having a total load of 39 kilowatts. The increase in reflection factor would have enabled the same degree of lighting to be obtained with an expenditure of only 7 kilowatts.

In this connection it is worth recording that the General Electric Company find it worth while to have the glazed brickwork in the light wells of Magnet House washed twice a year. The autumn cleaning has just taken place so that the normally dark season is begun with the reflection value of the brickwork at its maximum.

With the technical part of floodlighting we are not much concerned: this must always be the work of the specialist electrical engineer. But, as Mr. Ritchie points out, the art of floodlighting cannot be perfected without the fullest understanding of each other's ideas and points of view by architect and engineer. In the floodlighting of existing buildings this collaboration is the only way to obtain adequate results. In considering schemes for new buildings where the owners are likely to want floodlighting, this collaboration is most desirable when drawings are in the sketch stage. Many architects do not realise that the art of floodlighting has gone far beyond the placing of a row of lamps at first floor level shining upwards. Mr. Ritchie produces evidence that the possibilities of floodlighting both as decoration and as mere illumination are only beginning to be explored. His paper is possibly the most notable contribution that has been made on this subject and is, therefore, of the greatest value as reference. We understand that copies (Leaflet No. 6728) can be obtained from the General Electric Company, Magnet House, Kingsway, W.C.2.

JOINTING DRAIN PIPES WITH NEAT CEMENT

The Building Research Station have investigated several cases of burst pipes in which the trouble can be attributed definitely to use of neat cement mortar in jointing. All cement mortars and concretes undergo progressive expansion when stored under continually wet conditions, the amount of the expansion depending on the proportion of cement in the mix. Workmen like jointing pipes with neat cement because a hard smoothly trowelled finish is more easy to obtain than with a mortar containing sharp sand. If drain trenches are left open for some time, neat cement joints may shrink during drying enough to allow for subsequent expansion under moist conditions. It is safer to use a sanded mix and the Building Research Station suggests one of two parts of sand to one of cement.

DUSTING IN CONCRETE FLOORS

A small report, entitled *The Prevention of Dusting of Concrete Floor Surfaces*, has been issued by the Institution of Structural Engineers. In general terms, the causes of dusting are stated to lie in the neglect of those points of detail which have long been considered necessary in the best concrete practice. In other words, the requirements for a concrete that shall be structurally strong are practically indentical with those for one to resist abrasion. The use of aggregates containing friable material, stone "flour" or dust, contributes directly to this fault. The materials regarded as most suitable are some granites and similar stones which are themselves hard and do not readily break down and also some clean pit or river ballasts. The grading recommended for "small-medium aggregate" should vary from $\frac{3}{8}$ inch to $\frac{3}{16}$ inch, and for "fine aggregate" from $\frac{3}{16}$ inch down to that retained by a No. 72 sieve (1/120 inch). A recommended mix consists of 1 part of cement, $1\frac{1}{2}$ parts of small aggregate and 3 parts of small-medium aggregate.

Faulty workmanship, however, appears to be the main cause of dusting. This includes the use of too much or dirty gauging water, overworking of the surface (and with a trowel instead of a wood float), re-trowelling after or during the initial set, insufficient curing, laying during frosty weather and the sprinkling of fresh cement on the wet floor to absorb excess water.

It is pointed out that scouring or grinding a defective floor with carborundum and water will do much to remedy dusting, though when an unsuitable aggregate has been used it should be realised that such a cure may be only a temporary one. The report mentions briefly the use of proprietary surface hardeners such as iron filings or carborundum, many of which are of proved value. It also refers to the fairly well known practice of coating with silicate of soda but gives no recipe.

In considering this question broadly the use of pre-cast floor slabs should not be overlooked. Although this appears to have been outside the terms of reference of the Committee who prepared the report, it is closely allied and forms an alternative which must often be considerd by the architect. Good manufacture can clearly be more easily obtained under factory conditions than on a building; the use of pre-cast units will eliminate many of the risks outlined above. Several firms now market concrete (or terrazzo) floor tiles which have been hydraulically pressed during manufacture. It is worth noting that tiles of this type have been adopted by the London Passenger Transport Board for the entrances and halls of tube railway stations where exceedingly heavy foot traffic is to be expected. Naturally pre-cast work in small units is more expensive than in-situ, but prime cost is not always the ruling factor. A cheap floor that has to be relaid when the building is in use may well prove very expensive to the building owner. But in the laying of a concrete floor to take a not excessive traffic or where one reasonably free from joints is required, the recommendations of this report will be found of value. The price is 6d.

OVERHEAD SLIDING DOOR GEAR

Messrs. O'Brien Thomas & Co., Ltd., have drawn our attention to a mistake in our article on overhead sliding door gear in the 25 November number. The statement that "the hanger may be fixed to the top of a vertical post to which the door leaves are hung" is not true of the Coburn (System) track as it infringes the patent of another manufacturer. Moreover the words "Coburn (System) track" should always be used and not "Coburn track." We regret the inaccuracy.

REVIEW OF CONSTRUCTION AND MATERIALS

Contents of Preceding Numbers.

November 11th.—Progress in Research, Bricks, Building Stones, Steel, Reinforced Concrete, Timber, B.R.S. Annual Report, Research and slum clearance, Equipment of buildings, Sliding glass doors.

November 25th.—Weathering of Portland stone, Traffic vibration, Lead pipes in clay, Copper dowels in lead and cement, Condensation, Overhead sliding door gear, Pipe pushing.

December 9th.—The formation of blisters on mastic asphalte roofs, Lifting of wall and floor tiles, Sliding glass doors, Fixing devices and plugs.

Review of Practice

MEMORANDUM ON THE APPROVAL OF PLANS*

A CONTINUATION OF THE MEMORANDUM ISSUED BY THE MINISTRY OF HEALTH, THE FIRST PART OF WHICH WAS PRINTED IN THE LAST NUMBER OF THE JOURNAL

NEW STREETS AND BUILDINGS

†*1. Inquiries received in the Ministry of Health show that there is much misunderstanding of the powers and duties of local authorities and of the Minister of Health in regard to the approval of plans for new streets and buildings. The powers and duties of local authorities are everywhere both limited and definite, but they are not the same in all districts, and any person who does not understand, or wishes to query the action taken by a local authority on his proposals, should first of all* ask them *under what statutory or other powers they are acting.*

If a person fails to obtain this information, or having obtained it is still unable to understand the action of the local authority, the Minister will be prepared to consider whether he can help.

2. In any communication about the approval or disapproval of plans it is important to mention the district concerned, i.e., the borough, the urban or rural district (and, in a rural district, the parish). The Minister receives numerous inquiries and complaints which it is impossible to answer because the law is not everywhere the same, and the information given is too scanty for any investigation to be made.

3. This memorandum has been drawn up to deal with some of the points which ordinarily arise, but it does so in general terms only, and persons who wish to be informed of their legal rights or liabilities in particular circumstances are warned that no memorandum of this kind can cover every case, or take the place of the advice of a solicitor with all the facts before him.

The memorandum should be read through: paragraphs taken from their context may be misleading.

ACTS OF PARLIAMENT

4. In addition to compliance with the bye-laws (and local Acts if any) there are certain general Acts of Parliament to which a new building must conform. These cannot be set out here in full, but the most important in practice are the following.

DRAINAGE

5. (*a*) *Urban Districts.* In every urban district it is compulsory under section 25 of the Public Health Act, 1875, to provide every new house with means of drainage communicating with a sewer, or (if there is no sewer within 100 feet) emptying into such covered cesspool or other place as the Local Authority direct. The drains under this section have to be laid with such a fall as the Local Authority approve and they must comply with any bye-laws in force with respect to the drainage of new buildings. The bye-laws do not require sewage drains; they merely regulate such drains as are provided.

It has been held by the Courts that the Local Authority are empowered under this section to prohibit the method known as combined drainage of two or more houses. Combined drainage is never forbidden by bye-laws.

A person who lays his drains otherwise than in accordance with this section may be required to do the work again as well as to pay a penalty.

There is no right of appeal to the Minister against requirements authorised by section 25 of the Act of 1875.

The section does not empower Local Authorities to insist on separate drains for sewage and for surface water. Many Local Authorities have provided separate sewers for sewage and for surface water, and where this is done bye-laws can be made prohibiting, in certain circumstances, the person who constructs the drains of a new building from causing the surface water to discharge into the sewer for sewage only, and *vice versa*. But apart from such bye-laws (or a local act, see paragraph 4 above) separate drains for sewage and for surface water are not obligatory.

(*b*) *Rural Districts.* Section 25 of the Act of 1875 is in force in some rural districts only. Where it is, the position as regards drainage is that set out above for urban districts.

Where the section is not in force in a rural district, a person erecting a building is free to make his own arrangements for the disposal of sewage (i.e., he is not obliged to construct any drain or, if he does, to connect them to a cesspool or similar place), provided that in doing so he does not commit a breach of the law, e.g., as to the pollution of streams or the creation of nuisances.

It will be understood that, if any drains or cesspools are in fact constructed, any bye-laws which may be in force as to the drainage of buildings and the construction of cesspools must be satisfied.

(*c*) *All Districts.* A person has a statutory right under section 21 of the Public Health Act, 1875, to make the drains of his premises communicate with the sewers of the Local Authority. If he desires to do this, he must notify the Local Authority of his intention and comply with any regulations made by them with respect to the *mode in which the communications between the drains and sewers are to be made.*

It has come to the Minister's notice that some Local Authorities have regulations which purport to be made under section 21, but deal with matters other than the actual communication between the sewer and drain. So far as those regulations refer to these other matters, they have no legal effect and a person is not obliged to comply with them.

BUILDING LINES

10. Building lines are not fixed by bye-laws but (normally) by the Public Health (Buildings in Streets) Act, 1888, or under the Roads Improvement Act, 1925. The Act of 1888 forbids the erection or bringing forward without the consent of the Local Authority of any house or building or part of a house or building in a street beyond the front main wall of the building on either side in the same street. *It is important* to note that (*a*) the word "building" in the Act of 1888 has been held by the Courts to have a wider meaning than it ordinarily has, (*b*) the Act does not apply at all unless the proposed new building is in a street, (*c*) there must be "some degree of proximity" between the existing building or buildings and the new building, (*d*) the line is fixed by the existing building or buildings and the *Local Authority cannot prescribe it* for themselves. Under the Act of

* C. 34. July 1933. Reproduced by permission of the Comptroller of H.M.S.O.

† These three introductory paragraphs are reprinted since they refer to the contents of the whole Memorandum.

1888 a person to whom consent is refused has a right of appeal to Quarter Sessions, but a person who is aggrieved by the Local Authority's consenting to the erection or bringing forward of a building has no right of appeal. *There is no right of appeal to the Minister of Health.* This Act is in force in every urban district but not usually in a rural district.

The Act of 1925, however, enables any County Council or other highway authority to prescribe a building line in any highway maintainable by them. There are various limits on this power which cannot be set out in this memorandum, but when a line is prescribed or proposed under this Act it must be shown on a plan kept by the clerk to the authority concerned. It is unlawful to build in front of a line prescribed under this Act, without consent of the authority who prescribed it, and, under this Act, if their consent is refused there is no right of appeal. A person whose property is injured by the prescribing of the line may, however, claim compensation.

Also, building lines may be fixed by a Local Authority in a planning scheme—see paragraph 13 below.

In addition to building lines fixed as above *(which have nothing to do with bye-laws)* it may be that a street has been laid out in accordance with a bye-law permitting less than the standard width on condition that the buildings are set back. If so, this condition is, by virtue of section 100 (2) of the Housing Act, 1925, binding not merely upon the person who laid out the street but upon any person building beside the street.

Improvement Lines

11. Sections 33 and 34 of the Public Health Act, 1925, enable a Local Authority, as respects any street repairable by them, and the County Council, as respects any main road maintained by the County Council, to prescribe an improvement line (i.e. the line to which the street or main road is sooner or later to be widened) where in their opinion the street or main road is narrow or inconvenient, or without any sufficient regular boundary line, or where it is necessary or desirable that it should be widened. The improvement line may be prescribed in relation to either side of the street or main road, or at or within a distance of 15 yards from any street corner. A person aggrieved by the *prescribing* of the improvement line has a right of appeal to Quarter Sessions.

After the improvement line has been prescribed, no new building, erection, or excavation can lawfully be placed or made nearer to the centre line of the street or main road than the improvement line, except with the consent of the Local Authority or County Council. If consent is withheld, there is a further right of appeal to Quarter Sessions.

There is no right of appeal under these sections to the Minister of Health, and for further information as to improvement lines those interested should refer to sections 33 and 34 of the Act itself.

Some Local Authorities have provisions in local Acts—see paragraph 4 above—similar to section 33 of the Act.

Water Supply

12. Another important statute is the Public Health (Water) Act, 1878. *This Act does not authorise a Local Authority to disapprove the plans* of a dwelling house which otherwise complies with the law, but section 6 which is in force in every *rural* district makes it an offence *to let or occupy* a new dwelling house without a certificate from the Local Authority that there is an adequate water supply. The burden of satisfying the Local Authority is placed upon the person who proposes to let or occupy the house, but if he considers that the certificate has been unreasonably withheld he has a right to apply to Petty Sessions for an Order authorising the occupation of the house notwithstanding the refusal of the certificate. The Minister has no jurisdiction under the section.

Section 6 of the Act of 1878 is not normally in force in an *urban* district. Where it is, the position is that stated above. Where it is not, the certificate of the Local Authority that there is an adequate water supply is not, in the absence of a special local Act, required before the house is let or occupied.

Under section 62 of the Public Health Act, 1875, which is in force in every *urban and rural* district, the Local Authority can require any *existing* house within their district which is without a proper water supply to be provided with such a supply if the cost of furnishing it does not exceed that mentioned in the section. Futher information as to this will be supplied on application. As this section applies only to existing houses, the Local Authority have no power under it to disapprove the plans of a *new* house.

Planning Schemes

13. Where a planning scheme is in course of preparation for any part of a district, the position as regards any development* proposed to be carried out before it comes into operation should be ascertained. The fact that a scheme is in course of preparation does not preclude the carrying out of works in accordance with the bye-laws and statutory provisions in force in the district, but any building (including structures and erections) or other development after the date on which the resolution of the Local Authority deciding to prepare the scheme took effect (except work done for the purpose of finishing a building or carrying out a contract entered into before that date) is liable to be removed, pulled down, or altered, without compensation, if found to contravene the scheme when approved. Similarly if any building or land is being used in contravention of the scheme when approved the use is liable to be prohibited under penalty, without compensation, and the land reinstated at the cost of the owner, unless the development is carried out in accordance with a general or special interim development Order of the Minister under section 10 of the Town and Country Planning Act, 1932. The Minister has made a general Order under this section (the Town and Country Planning (General Interim Development) Order, 1933†) and Local Authorities who have planning schemes in preparation can by virtue of the Order and section 10 of the Act grant permission for development, subject to compliance with such conditions as they think proper to impose, with a view to securing the objects of the scheme. The decision of the Local Authority must be in writing and reasons for the decision must be given.

The section provides for appeal to the Minister against any of these conditions or against the refusal of permission under the powers mentioned in this paragraph. The appeal must be made within 28 days of the receipt of notice of the decision of the Local Authority or such longer period as the Minister may allow.

When a scheme is approved and in force, all development in the area covered by it must comply with it.

* "Development" is defined in section 53 of the Town and Country Planning Act, 1932. Broadly speaking, it includes building operations or re-building operations (including incidental road works and the placing of structures and erections on land) and any change in the use of land or buildings except where the use is for certain specified agricultural purposes.

† Statutory Rules and Orders, 1933, No. 236. Copies, price 2d. each, may be obtained from H.M. Stationery Office, Adastral House, Kingsway, London, W.C.2, directly or through any bookseller.

Normally planning proposals do not touch details of construction except in so far as they may affect the design and external appearance of buildings.

This brief statement of the position during the interim period is not intended to be more than a general indication of what the Act and Order provide. The terms of the Act and Order themselves should be carefully studied in order to ascertain the precise position in regard to proposals for development. The responsibility is with the developer to satisfy himself, if need be by seeking legal advice, whether or not it is necessary for him to submit an application to the Local Authority under the Order for permission before proceeding with the development.

"Habitation Certificates"

14. In some local Acts and in a few series of bye-laws (usually those made many years ago) there is a requirement that before a new building is occupied a certificate that it is fit for human habitation must be obtained from the Local Authority's surveyor. Some Local Authorities are willing to grant a similar certificate (for which a purchaser or mortgagee of the property may sometimes ask), even though it is not compulsory to obtain it, but *unless there is a local Act or a bye-law making it compulsory to obtain this certificate the person proposing to let or occupy the house is under no obligation to do so.*

The Minister does not normally allow such a bye-law to-day. *There are thus few districts where these certificates must be obtained before a building can legally be occupied.*

Temporary Buildings

15. Paragraphs 5 and 6 of this memorandum refer to buildings within the meaning of the Public Health Act, 1875. There is a further class of structure to be considered briefly, namely, "temporary buildings" within the meaning of section 27 of the Public Health Acts Amendment Act, 1907. It has been held by the Courts that bye-laws made under the Public Health Act, 1875, may apply to these temporary buildings. If they do, the builder must comply with both sets of requirements. Section 27 of the Act of 1907 requires that, *if the building is in fact temporary,* plans and a specification shall be submitted to the Local Authority and their permission shall be obtained before it is erected, and empowers them to attach to that permission any conditions which they deem proper as to the healthiness of the buildings, the prevention of fire risk and the period during which it shall be allowed to stand. Approval or disapproval must be given by the Local Authority *within one month* of the delivery of the plans and specifications to them and, if permission is refused or if the builder thinks the conditions imposed unreasonable, he has a right of appeal to Quarter Sessions. *He has no right of appeal to the Minister of Health.*

Section 27 of the Act of 1907 does not authorise the charging of any fee in connection with the issue of permission under the section, or contemplate the execution of any form of agreement.

Persons writing to the Minister frequently describe a proposed building as temporary, apparently under the impression that the legal requirements with which they must comply will then be less. *This is quite mistaken: the permission of the Local Authority is not required* for the erection, in accordance with the bye-laws and other legal provisions in force, of a building which is not temporary, whereas it is required for a temporary building wherever section 27 of the Act of 1907 (or an equivalent provision in a local Act—see paragraph 4 above) is in force. But it should be noted that any building expressly exempt from the operation of the bye-laws is also exempt from the operation of the section.

Tents, Vans and Sheds

16: [This paragraph states that tents, vans and sheds can be brought into a district without submission of plans, but if a nuisance is created or the erections offend bye-laws that are can be prevented.—Ed. R.I.B.A. Journal]

Waiver of Bye-Laws or Local Acts

17. (1) (*a*) Bye-laws and local Acts can be waived under section 99 of the Housing Act, 1925 (as amended by the Housing Act, 1930). This section applies primarily where schemes under the Housing Acts are carried out, but if in any district the bye-laws or local Acts have been contravened under this section the section gives *any other person a right* to contravene the *same* bye-laws or Acts *to the same extent.* Local Authorities have no discretionary power to refuse this right, but may (obviously) dispute a claim that a particular contravention is in fact to the same extent only as that which has already occurred. On this question of fact there is an appeal to the Minister.

(*b*) Where a planning scheme (see paragraph 13 of this memorandum) is operative it may provide for the relaxation of the bye-laws with respect to new streets.

Where a planning scheme is in course of preparation provision is made in the Interim Development Order for enabling development not in conformity with the bye-laws with respect to new streets to be authorised so that the development so authorised may be protected against possible interference. without compensation under the scheme when finally approved and in force.

(2) Local Authorities, though unable to waive their bye-laws, except as just explained, can prevent their applying unreasonably by formally amending them and they SHOULD BE ALERT to amend them (see paragraph 18 below) as soon as need arises. There is no legal difficulty about an amendment limited to particular proposals if a case for this is made out and a case for general amendment is not. Obviously, where the bye-laws are of the unrestrictive type now usual, any person who seeks excusal from them for his own plans must show a stronger case than where the bye-laws contain obsolete restrictions, but circumstances may arise which were not foreseen when the bye-laws were made and are not likely to arise again, and a special amendment will then be justified and indeed desirable.

Amendment, Repeal or Revocation of Bye-Laws

18. The Departmental Committee on Building Bye-laws, which reported in 1918, recommended that all bye-laws as to streets and buildings should at least be reviewed every ten years. All Local Authorities have the power to AMEND THEIR BYE-LAWS so as to keep them up to date, and to repeal any which are found unnecessary, and for more than twenty years it has been the policy of the Minister and his predecessors, the Local Government Board, to do all in their power to encourage such amendment or repeal. Under section 13 of the Housing etc. Act, 1923, the Minister obtained power to require a Local Authority to revoke any bye-laws likely to be an unreasonable impediment to building. This section was re-enacted in section 101 of the Housing Act, 1925, and a separate memorandum explaining it will be sent upon request.

Agreed References

19. In general, except as otherwise stated in this memorandum, the Minister of Health has no power to decide disputed points as to the approval of plans. He is, however, prepared to consider requests for his opinion *where both parties* to a dispute *wish for it;* a separate memorandum as to the procedure for obtaining his opinion will be sent upon request.

Book Reviews

THE TUDOR HOME OF GEORGE WASHINGTON'S FAMILY

"SULGRAVE MANOR AND THE WASHINGTONS," *by H. Clifford Smith. London: Cape. 1933. 15s.*

This monograph is an enthusiastic description of a former home of the Washingtons, which dates from the mid-sixteenth century, of the locality in which it is situated, of persons connected with it, and especially of those who were instrumental in acquiring and making it a shrine for Americans visiting England. Although the author devotes considerable space to tracing the changes made in the structure during four hundred years and speculates upon the origins of its features, the book has little claim to be regarded as a serious architectural or archæological production. Athough only one house is described, it is constantly and irritatingly referred to as the "Manor House," whilst the book abounds in speculative phrases such as "It would have been," "It is possible that," "it is most likely," "we might well suppose"; which often have slender foundations. On page 130 a doorway between two rooms, the sill of which is a structural timber raised several inches above the floor, is explained as follows :—

"This raised threshold, inconvenient though it is to cross, may in early times have had a practical as well as a structural purpose in preventing the sweet herbs strewn upon the floor from being dragged from one room to the other."

The danger of such speculations lies in their being repeated as facts and so adding to the precious nonsense which clogs popular archæology. However, Mr. Smith himself, would probably disclaim any pretensions to being an authority either upon architecture or building. His bibliography (page 245) includes no works upon house design or building construction. This lack is apparent also in his use of structural terms, as on page 120, where rafters are described as "sloping beams" and where he falls into the error of regarding collar-beams primarily as ties to hold the rafters together, whereas their chief function is to keep them apart when loaded with the roof covering. Mr. Smith suggests *c.* 1540 as the date when the house was built, 1560 as about the time when certain alterations were made, and further alterations towards the end of the sixteenth century, the "Queen Anne" extension being *c.* 1700. Certain allusions in the text suggest the possibility that originally the hall may have been open to the roof, and that the "Great Chamber" floor and the masonry at the east end are late sixteenth century alterations, such as are to be found in abundance all over the country. The illustrations and descriptions given are insufficient to do more than suggest subject for inquiry. Certainly details mentioned, such as the traces of an early window where the door from stairs to the "Great Chamber" now is, call for investigation, but features which might have helped this, now will have been covered up.

Mr. Smith's book will meet the needs of a multitude of Americans visiting England and be a joy and inspiration to greater multitudes who are unable to visit Sulgrave themselves. His evident pleasure and appreciation of his theme must certainly infect readers and materially assist in drawing more closely the bonds of friendship and kinship between England and the United States. NATHANIEL LLOYD [*F.*].

ANOTHER QUENNELL HISTORY

A HISTORY OF EVERYDAY THINGS IN ENGLAND FROM 1733–1851. *By Marjorie C. H. B. Quennell. London: Batsford, Ltd. 8s. 6d.*

At times one is aware of a vaguely uncomfortable feeling that other people are performing vicariously duties that really should be one's own affair. I have felt that peculiarly with reference to the works of Mr. and Mrs. Quennell. When I survey that neat little regiment of their books which decorate my shelves and realise that for some 15 years or more they have been steadily producing them one after another, and each if possible—which it isn't—better than the last, I have a somewhat ashamed feeling that they have put me personally, and the profession as a whole, irretrievably in their debt.

For years we—that is, the profession—have talked (unfortunate phrase!) about "educating the public," meaning, of course, educating the public on matters architectural, and individual members of the profession have done a great work in this field. But I venture to maintain not one, not even the most devoted of them, have done more than the Quennells.

True, "C. H. B."—to give him the designation by which he is known to a large circle of friends—is "one of us"; indeed, if he had not been, coupled with the fact that in his wife he had the ideal collaborator immediately to hand, it is highly improbable that this tremendously important series of works would have been produced.

How important they are, I can perhaps best illustrate by an incident which occurred some few years ago when I had been addressing a meeting largely consisting of school teachers and those interested in teaching. On this occasion I had had the temerity to take for my subject the Philistinism of the educated classes, particularly as regarded architecture. At the close of the meeting I had a very interesting conversation with the secretary of one of the educational institutions, who told me that it might be some comfort to me in my extreme pessimism (*sic!*) to know that there were some 800 schools of the high school and public school type that had architectural appreciation classes. I asked her what they used for their text-books, and almost the first name she gave me was that of the Quennell's.

I have tested this in other directions, and I think it would be something in the nature of an under-statement to aver that there is scarcely a person in this country who is interested in higher education, to whom the works of Mr. and Mrs. Quennell are unfamiliar.

This particular volume takes the story of everyday things in England down to 1851, and includes the story of the Regency, the transitional link between the Renaissance and the modern world. How skilfully the authors have woven in the story of the building of the churches and houses of the period into their main theme can only be appreciated by a perusal of the book. Possibly the success of their method is due to their courage in treating churches and houses as everyday things !

Needless to say that, in addition to being readable, the book is delightfully illustrated. Both Mr. and Mrs. Quennell are skilled draughtsmen. If you want to know how skilled, please turn to page 139 and see what the one can make of so ordinary

an affair as a farm waggon (in looking at it one can almost hear the timbers creak!), or to page 76, and see what the other can do with a bevy of Regency belles!

The space at my command is all too short to do justice to my subject, but I hope I have said enough to indicate what, to my mind, is the importance of the series and the charm of this particular volume.

STANLEY C. RAMSEY [*F.*].

BRIDGES

BRITISH BRIDGES, A TECHNICAL AND HISTORICAL RECORD, *with a foreword by the Hon. Oliver Stanley, M.P., an introduction by John Buchan, M.P., and a Paper on Bridge Development by C. H. Bressey. London: Public Works, Roads Transport Congress, 1933. 10s. 6d.*

In *British Bridges*, published by the Organising Committee of the Public Works, Roads and Transport Congress, we have an illustrated survey or record of ancient and modern bridges such as could not have been produced by ordinary means, and the public must be grateful to the Committee, and to Colonel Bressey, and those who have collaborated with him in providing so comprehensive a work.

Those who enjoyed the privilege of seeing the Exhibition at the Congress of the actual enlarged photographs will appreciate even more the great effort entailed in the production of the book which contains no less than 303 illustrations.

The official photographers to the Congress, Messrs. Hobbs, Offen and Co., Ltd., are to be congratulated, for throughout the pictures show a high appreciation of the subjects bringing out the various points of interest and beauty by the care and selection in both point of view and lighting.

To anyone with a knowledge of architectural photography it is clear that the photographers set themselves a high standard, and maintained it vigorously throughout their travels of nearly 14,000 miles.

The book has wisely been kept as non-technical as possible, and Colonel Bressey's treatise upon "The Development of Road Bridges in Great Britain" may be read with equal interest and pleasure by both professionals and laymen, and it is in this that its great value lies, for it must stimulate many individuals and authorities all over the country to a greater interest and appreciation of not only the treasures of the past but of the efforts of the present to produce fine structures and preserve the amenities of their surroundings.

Colonel Bressey has divided his commentary upon the contents of the book into three classes—(1) Beam Bridges, (2) Arch Bridges, (3) Chain or Suspension Bridges—and in some nine or ten pages has with references to illustrated examples given a concise and easily read dissertation upon the various types and the history of their evolution.

The book is divided into three sections for England, Wales and Scotland, and the bridges grouped under the Geographical counties in which they are situated.

In every instance the illustrations are accompanied by the history of the bridge giving, where known, the names of the designers and cost, and in the case of modern structures more detailed information as to construction and so forth.

It is definitely not to be taken as a text book for the student upon bridge construction, but as a record, and as such there is much to be learned from it.

In his conclusion Colonel Bressey writes :—

"The foregoing notes will have served their purpose if they bring to the minds of readers the fascinating variety of the problems that confront the bridge builders and the ingenuity displayed for hundreds of years past by members of that great craft which evokes to-day a higher degree of skill than ever before."

Whilst one must agree that the engineering problems of a modern bridge are vast in their complexity in comparison with the ancient bridges of small spans and of a weight carrying capacity so small as to be well nigh negligible, one must not forget the credit due to the pioneers of arch construction. These men had the courage of their convictions without theoretical knowledge or the means of testing their foundations or material, and with none of the aid of modern plant.

What they have left, however, shows with abundant clearness that they worked with one thought only, that of producing the best possible bridge in their power, limited as they were to the use of local material and primitive appliances. And it is this singleness of thought that has given their work its satisfying and everlasting beauty.

The question arises as to whether we are working with that same simplicity of mind.

To do so all forms of modern science, construction and materials must be utilised to the full, free from fear of misplaced æsthetic criticism.

Aping old forms and outlines by the concealment of knowledge will not bear consideration.

Can one in looking at these ancient structures imagine for one moment that their designers hesitated to accept every improvement in methods of building as they evolved.

There still persists in the minds of many the mistaken view that architecture in its connection with engineering is something which may or may not be added at the last moment, much as a coat of paint.

It has long ceased to be possible for one man to undertake satisfactorily the carrying out of the immensity of problems arising in the two professions of architect and engineer.

The only satisfactory collaboration of the two professions can be where they meet at the outstart, neither being called upon at a late stage to titivate in one case or construct in the other the preconceived designs of the first. In other words, there must be complete confidence and harmony with only one directing thought, that of the work in hand.

The addition of a map to the book showing the position of the bridges illustrated would have been valuable.

One realises that such a publication can only have been produced at so low a price as half a guinea under special circumstances, which is well, for low price ensures a large circulation.

It is, however, a matter of regret that the heavily loaded paper used gives little hope of the work remaining as a long lasting record—happily the actual photographs are there, which it is hoped will be carefully preserved for future generations.

MAXWELL AYRTON.

B.S.I. MANHOLE COVERS SPECIFICATION

BRITISH STANDARD SPECIFICATION FOR CAST IRON MANHOLE COVERS AND FRAMES (LIGHT). No. 497—1933.

This is the British Standard Manhole Cover published by the British Standards Institution, 28 Victoria Street, S.W.1, price 2s. It deals with covers and frames, freedom from defects, dimensions and weights, hammer test, finish coatings, galvanising, marking and inspection, and gives a table of dimensions and a key plan.

H. D. SEARLES-WOOD [*F.*].

BIRMINGHAM CIVIC SOCIETY

By next year the Birmingham Civic Society will have been in existence for fifteen years—fifteen years of hard and successful work which has resulted in a very remarkable growth of civic consciousness in a city which never was noticeably lacking in that worthy pride. The Society has cast its net wide and probably no item of civic life has escaped its critical eye or been unaffected by its improving zeal. In the current report, for instance, we have accounts of the Society's suggestions for the celebration of the Town Hall centenary, a letter to the Lord Mayor calling attention to the insufficient accommodation in the city for the conduct of civic marriages, correspondence on grave memorials, including a valuable note on the weathering qualities of Portland stone, and minor reports on a variety of other subjects. The Secretary (Mr. William Haywood [*F.*]) apologises for the production of the report in a slightly modified form this year, an economy that has been made to enable the Society to produce a more ambitious book next year to celebrate the fifteenth anniversary of the Society's foundation.

ACCESSIONS TO THE LIBRARY

1933–1934—II

INCORPORATING

NOTES ON RECENT PURCHASES

(*These Notes are published without prejudice to a further and more detailed criticism.*)

Lists of all books, pamphlets, drawings and photographs presented to, or purchased by, the Library are published periodically. It is suggested that members who wish to be in close touch with the development of the Library should make a point of retaining these lists for reference.

Books presented by Publisher or Author marked R.
Books purchased marked P.
* *Books of which one copy at least is in the Loan Library.*

ARCHITECTURE

Mr. Percy Morris [F.] has sent us a copy of vol. 1 of the R.I.B.A. Transactions, first series, 1835–36.

NORDISK BYGGNADSDAG

Nordisk byggnadsdag, 1932. Helsingfors 4–6 juli.
Q. 12″. 32 pp. Helsingfors: Akademiska Bokhandeln. 1932. R.

DESIGN

EAST SUFFOLK JOINT REGIONAL PLANNING COMMITTEE

Notes on designing small houses.
pam. 8″. 1933. R.

PRESERVATION

SOCIETY FOR THE PROTECTION OF ANCIENT BUILDINGS

Fifty-sixth annual report. June 1933.

HISTORY

DALLAWAY (JAMES)

A series of discourses upon architecture in England from the Norman era to the close of the reign of Elizabeth.
9¾″. 447 pp. London. J. Williams. 1833.
Presented by Mr. Arthur Keen [F.].

MERRILL (SYDNEY)

A note book of architecture.
Q. 10″. 123 pp. *and* bibliography. London: V. White. [1933.] 6s. P.

PROFESSIONAL PRACTICE

CARDIFF, *City*: CORPORATION

Byelaws made . . . with respect to new streets and buildings in the city of Cardiff under the Public Health Act, 1875 . . . and Cardiff Corporation Acts of 1894 and 1930 . . . made . . . December 1932.
pam. 9½″. Cardiff. 1933. R.

CARDIFF, *City*: CORPORATION

Byelaws with respect to new streets and buildings in the city of Cardiff . . . made . . . October 1925, *etc.*
pam. 9½″. Cardiff. 1925. R.

BUILDING TYPES

(CIVIL)

VIOLLET-LE-DUC

Historie d'un hôtel de ville et d'une cathédrale.
9¾″. Paris: Hetzel. [1879.]
Presented by Mr. Arthur Keen [F.].

MINISTRY OF AGRICULTURE AND FISHERIES

Economic series, No. 13. Report on markets and fairs in England and Wales. (Part I. General Review).
pam. 9½″. London: H.M.S.O. 1927. 6d.
Presented by Mr. Jesse Castley [L.].

L'ARCHITECTURE D'AUJOURD'HUI, *journal*

*Les salles de spectacles. (September/October 1933.)
Paris. 1933. 7s. 6d. P.

TALLIS (JOHN) *Publisher*

Tallis's history and description of the Crystal Palace and the exhibition of the world's Industry in 1851.
Q. 10¾″. iv+192 pp. [34] pls. London: Tallis. (1851.) 5s. P.

PUBLIC WORKS, ROADS AND TRANSPORT CONGRESS

British bridges . . . an introduction by J. Buchan and a paper on bridge development by C. H. Bressey.
9½″. xxiv+498 pp. London. 1933. 10s. 6d. R.

(ECCLESIASTICAL)

CRANAGE (D. H. S.)

*An Architectural account of the Churches of Shropshire. Illustrated by M. Harding. Plans by W. A. Webb.
10 vols. Q. Wellington. 1894–1912.
Presented by Mr. Charles Woodward [A.].

(EDUCATIONAL)

NATIONAL CENTRAL LIBRARY

A description of the new building in Malet Place, presented by the Carnegie United Kingdom Trust, *etc.*
pam. 10″. London. 1933. R.

(DOMESTIC)

CONTEMPORARY REVIEW

The present state of the housing problem. (*From* the Contemporary Review, Oct. 1933.) [*An article based* on an address given at the Liberal Summer School, Cambridge, August 1933.]
pam. 9¾″. London. 1933. R.

DEPARTMENT OF HEALTH FOR SCOTLAND

State-aided housing schemes. General specification.
fo. pam. 13¼″. Edinburgh: H.M.S.O. 1933. 6d. R.

NATIONAL HOUSING AND TOWN PLANNING COUNCIL *and* SCOTTISH NATIONAL HOUSING AND TOWN PLANNING COMMITTEE

Memorandum upon the position of housing in Scotland. (November 1933.) By Sir W. E. Whyte.
Leaflet 13¼″. London. 1933. R.

NATIONAL HOUSING AND TOWN PLANNING COUNCIL

Memorandum upon the present housing situation in England and Wales. (November 1933.) By John G. Martin.
Q. pam. 13½″. London. 1933. R.

NATIONAL HOUSING AND TOWN PLANNING COUNCIL

Housing Act, 1930. Memorandum with respect to the repair or demolition of individual insanitary houses. By H. Lloyd Parry.
Q. pam. 13½″. London. 1933. R.

NATIONAL HOUSING AND TOWN PLANNING COUNCIL

Memorandum upon the provisions of the Housing Act, 1930. (Revised November 1933.) By John G. Martin.
Q. pam. 13½″. London. 1933. R.

NATIONAL HOUSING AND TOWN PLANNING COUNCIL

The campaign against the slums. Particulars relating to the programmes contemplated by certain local authorities under the Housing Act, 1930. Compiled by John Martin. November 1933.
Q. pam. 13½″. London. 1933. R.

DALY (CÉSAR)
*L'Architecture privée au xix$_e$ siècle. 2nd. Series.
3 vols. fo. Paris. 1872.
Presented by Mr. Charles Woodward [A.].

EDWARDS (A. TRYSTAN)
Masonic peace memorial.
pam. 8½″. London. 1933. R.

GESCHEIT (HERMANN)
*Neuzeitliche Hôtels und Krankenhäuser.
Q. 11¾″. viii+469 pp. Berlin: Pollak. [1930]. £4 10s. P.

[BYRNE, MRS. WILLIAM PITT]
Feudal castles of France (Western Provinces).
8¾″. xiii+360 pp. London: Chapman and Hall. 1869.
Presented by Mr. Arthur Keen [F.].

RIMMER (ALFRED)
Ancient halls of Lancashire from original drawings.
Q. 12″. London: Deighton and Laughton. 1852. 5s. P.

DETAILS

GLAZIER (RICHARD)
A Manual of historic ornament, *etc.*
5th Edn. 9½″. [vi]+184 pp. London: Batsford. 1933. 12s. 6d. P.

BOSBOOM (ALFRED)
A brief and plain description of the five columns of architecture . . . by Alfred Bosboom, the city-mason of Amsterdam, according to . . . Vincent Scamozzi *etc.*
fo.[Q.] 12″. 40 leaves. Line engravings. London: *Printed for* Robert Pricke. 1676. £2. P.

Following Bosboom's plates are 13 plates mostly from French work on interiors; also at the end of the volume 2 plates have been pasted—one of S. James' Palace.

WEBB (GEOFFRY)
The Liturgical altar.
7¼″. 112 pp. London: Washbourne & Bogan. 1933. 5s. P.

ALLIED ARTS

PARIS: ECOLE DES BEAUX ARTS
Concours d'architecture de l'année. 1932–33.
Paris. 1933. £1. P.

LEEDS (E. T.)
Celtic ornament in the British Isles down to A.D. 700.
8¾″. xix+170 pp. Oxford: Clarendon Press. 1933. 12s. 6d. P.

QUENNELL (MARJORIE *and* C. H. B.)
*A History of everyday things in England . . . 1733–1851.
8¾″. xii+222 pp. London: Batsford. 1933. 8s. 6d. R. & P.

ARCHÄOLOGISCHES INSTITUT DES DEUTSCHEN REICHES ABTEILUNG ISTANBUL
Palmyra. Ergebnisse der Expeditionen von 1902–1917.
2 vols. Vol. 1, text. Vol. 2, plates. Q. 14¾″. Berlin: Keller. 1932, £10 15s. P.

BUILDING

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH
Report of the Building Research Board for the year 1932.
pam. 9½″. London: H.M.S.O. 1933. 2s. 6d. R.

SPECIFICATION

PUBLIC WORKS, ROADS AND TRANSPORT CONGRESS (1933)
Specifications—in the light of tradition, experience and research. By B. Price-Davies. (Congress paper No. 12.)
pam. 9½″. London. 1933.
Presented by the author.

MATERIALS

DEWAR (ALEXANDER H.)
Dry rot, some experiments . . . of dry rot in floors.
pam. 8½″. London: Linoleum and Floorcloth Manufacturers' Association. 1933. 1s. R.

FINDLAY (W. P. K.)
Dry-rot in buildings, its symptoms and cure. (*From* Country Life. 4 November 1933.)
pam. fo. 14½″. London. 1933. 1s. R.

PEARSON (R. S.) *and* BROWN (H. P.)
Commercial timbers of India, their distribution, supplies, anatomical structure, etc.
2 vols. 4o. 10¾″. Calcutta: Government of India Central Publication Branch. 1932. £5.
Presented by the Public Department of The High Commissioner for India.

CONSTRUCTION

ADAMS (HADDON C.)
The Elements of reinforced concrete design.
9½″. viii+146 pp. London: Concrete Publications, Ltd. 1933. 6s. R.

SANITARY SCIENCE

BRITISH STANDARDS INSTITUTION
No. 504. Specification for drawn lead traps.
October 1933.

BRITISH STANDARDS INSTITUTION
No. 503. Specification for creosote for fuel in furnaces.
September 1933.

DICTIONARY

THE PHILOLOGICAL SOCIETY
New English Dictionary. Introduction, supplement and bibliography.

PERIODICAL

PROFIL
The monthly publication of the Zentralvereinigung der Architekten Osterreichs. Vienna. *Monthly.*
This periodical is now received by the Library.

TOWN AND COUNTRY PLANNING

HAYWARD (PASCOE) *and* WRIGHT (C. KENT)
The law of town and country planning.
8¼″. viii+420 pp. London: Estates Gazette. 1933. 17s. 6d. R.

SAFFORD (ARCHIBALD)
*The law of town and country planning . . . being a third edition of Safford and Oliver on—The law of town planning.
8½″. xv+415 pp. London: Haddon, Best. 1933. 25s. R. & P.

NATIONAL HOUSING AND TOWN PLANNING COUNCIL
Some notes upon the application of the Town and Country Planning Act in regional schemes. By Patrick Abercrombie.
Q. pam. 13½″. London. 1933. R.

MACFADYEN (DUGALD)
Sir Ebenezer Howard and the town planning movement.
8¾″. x+166 pp. Manchester: University Press. 1933. 10s. 6d. R.

PUBLIC WORKS, ROADS AND TRANSPORT CONGRESS (1929)
(1) The arrangements and economics of a Town plan. By B. Price-Davies. (Congress paper No. 3.)
(2) Plans accompanying Mr. B. Price-Davies's paper, *etc.* (Congress paper No. 3A.)
2 vols. pam. 9½″. London. 1929.
Presented by the author.

SIMON (SIR E. D.)
*The Anti-slum campaign.
9¾″. viii+206 pp. London: Longmans, Green. 1933. 2s. 6d. P.(2) & R.

BRITISH STANDARDS INSTITUTION
No. 505. Specification for road traffic control (electric) light signals. October 1933.

BRITISH STANDARDS INSTITUTION
No. 510. Specification for single-coat asphalt (cold process).
No. 511. . . . . for two-coat asphalt (cold process).
October 1933.

RURAL PRESERVATION

COUNCIL FOR THE PRESERVATION OF RURAL ENGLAND
No. 34. Access to the countryside. By Sir Lawrence Chubb. (Paper read at the 6th National Conference for the Preservation of the Countryside.)
pam. 8½″. London. 1933. R.

THE COMMONS, OPEN SPACES AND FOOTPATH PRESERVATION SOCIETY
Parish councils and the Rights of Way Act, 1932.
pam. London. (1933.) R.

THE COMMONS, OPEN SPACES AND FOOTPATHS PRESERVATION SOCIETY
The Rights of Way Act, 1932. An explanation of the Act, *etc.*
pam. London. 1933. 3d. R.

THE COMMONS, OPEN SPACES AND FOOTPATHS PRESERVATION SOCIETY
Footpath maps and surveys. Why and how to make them.
pam. London. 1933. 3d. R.

Review of Periodicals

Almost a hundred architectural, scientific and historical journals are received by the R.I.B.A. library. Since it is obvious that few members of the Institute can have the time or opportunity to examine them all, this Review has been added to the R.I.B.A. JOURNAL *to draw attention, as far as space allows, to articles which are likely to be of value or interest.*

CIVIC

АРХИТЕКТУРА С.С.С.Р. (*Architecture of the U.S.S.R., Journal of the Association of Soviet Architects, Moscow*). *1933. No. 1.*

The latest designs by B. M. Joffane, "accepted as a point of departure" for the Palace of the Soviets, are illustrated by many drawings and plans. One or two other schemes are also shown, including the peculiar pseudo-classic-Chinese design by Chtchouko and Helffreich.

ARCHITETTURA. (*Milan. Journal of Sindaco Nazionale Fascista Architetti.*) *Vol. XII, 10 October.*

The greater part of *Architettura* is occupied by illustrations of competitive designs (G. Samonà 1st premium) for Post Office building for the Appio Quarter, Rome—every design unhesitatingly modern, almost all interesting, and some very good.

Competition designs for the Pesaro Palazzo comunale (E. Mongiovi 1st premium) also illustrated.

COMMERCIAL

CONCRETE. *Vol. XXVIII, 12. December.*

New grain silos at the Royal Victoria Dock are illustrated and described as example of rapid construction, 88 feet of walling being completed in less than seven days!

ARCHITECT AND BUILDING NEWS. *Vol. CXXXVI, 3390. 8 December.*

ARCHITECTS' JOURNAL. *Vol. LXXVIII, 2030. 14 December.*

The shopping centre at Southgate Station, on the Underground Railway, is illustrated by numerous drawings and photographs and briefly described.

A. J. particularly useful details of equipment.

ARCHITECT AND BUILDING NEWS. *Vol. CXXXVI, 3390. 8 December.*

ARCHITECTS' JOURNAL. *Vol. LXXVIII, 2030. 14 December.*

The Birmingham Municipal Bank (T. C. Howitt [*F.*]) illustrated by photographs, plans and a section.

JOURNAL OF ROYAL ARCH. INST. OF CANADA. *Vol. X, 11. November.*

Architects and shop fronts. An illustrated article. R. W. Catto. Several good examples.

ABATTOIRS

ARKITEKTEN. (*Helsingfors.*) *Vol. XXX, 10.*

The new abattoir at Helsinki-Helsingfors (Bertel Uljequist) is described in an exhaustive article illustrated by some 15 photographs and numerous plans and sections. The article is an important contribution to the small amount of information on the subject. In appearance the buildings are excellent—straightforward and functional—their civic importance shown with the right amount of reticence.

JOURNAL OF INSTITUTION OF MUNICIPAL AND COUNTY ENGINEERS. *Vol LX, 12. 5 December.*

In an article on recent work at Rhyl there are a block plan and photographs of the Urban District abattoir with a useful description, including information on materials used.

TRANSPORT BUILDINGS

BULLETIN TECHNIQUE DE LA SUISSE ROMANDE. *Vol. LIX, 25. 9 December.*

M. M. A. Sarrasin, engineer, writes on recent reinforced concrete bridges, illustrating those on the Rhône at Brançon, a good low-level flat arch bridge, and on the Viège at Meryen—lofty trussed arch. The article is to be continued.

AIRPORT

АРХИТЕКТУРА С.С.С.Р. *1933. No. 1.*

The Moscow airport buildings are illustrated by four photographs, rather bleak.

HOSPITALS AND ASYLUMS

BUILDER. *Vol. CXLV, 4741. 15 December.*

The completed buildings of the North Wales Mental Hospital at Denbigh (Lockwood, Abercrombie and Saxon [*F.* and *A.*]) are illustrated and briefly described. These include a nurses' home, a male observation block, and a men's "villa." Ultimately there is to be built a reception hospital with accommodation for 50 men and women. A good building that repays attention.

ARCHITECTS' JOURNAL. *Vol. LXXVIII, 2029. 7 December.*

A nurses' home (31 bedrooms) for the Sevenoaks Hospital (W. H. Ansell). Good plans and a photograph.

THEATRES

BYGGMÄSTAREN. (*Stockholm.*) *15 November.*

Illustrations of designs submitted in a competition for the Malmö State Theatre. Many of them are of the greatest interest, and show originality and functional common sense. (Architects: Backström and Reinius, Hagstrand, Nils Eriksson, Hjortzberg, Lewerentz and Hedberg, Dahl, Ahrbom and Zimdahl, Lallerstedt and Helldén, Petterson, and Schmalensee and Thundström.

EDUCATIONAL

LA CONSTRUCTION MODERNE. (*Paris.*) *Vol. XLIX, 10. 3 December.*

André Lurcat's groupe scolaire at Villejuif, near Paris. This group of very modern buildings is built for the Communist municipality of Villejuif, and shows the freedom in ideas that might be expected. It includes boys' and girl's schools (not co-educational), a mothers' school and a gymnasium. The scheme is of considerable interest and repays study.

ARCHITECTS' JOURNAL. *Vol. LXXVIII, 2029. 7 December.*

One of Mr. W. T. Curtis' [*F.*] large schools for the Middlesex County Council is very briefly described and well illustrated by large plans.

BUILDER. *Vol. CXLV, 4741. 15 December.*

The central school for boys, Bexley-Welling, Kent (W. H. Robinson [*F.*] and A. C. Paulin [*L.*]).

DOMESTIC

ARKITEKTEN. (*Copenhagen.*) *Vol. XXXV, 9. September.*

This number is almost entirely concerned with the functional fundamentals of house design, the possible plan arrangements

of simple four-wall houses being analysed to show the advantages of each type in aspect, accommodation, etc., and possible furniture disposition in varied room sizes and shapes.

ΑΡΧΙΤΕΚΤΥΡΑ C.C.C.P. *1933. No. 1.*

Several revolutionary housing schemes are illustrated, including an executed block of flats in Moscow (Langman and Fomine) and a very large and interesting workers' club attached to a factory in Moscow includes a theatre and many club rooms. Quite sane designing without obvious straining for effect. Another club, for municipal workers in Moscow, is shown, and also a huge scheme for a communal tenement at Stalingrad.

Architectural Forum. *(N.Y.) Vol. LIX, 5. November.*

The November *Forum*, with a special supplement on conversion of old houses, is almost entirely concerned with domestic works and contains many interesting examples, new and old: articles on and examples of the New England farmhouses, one-storey colonial houses, modern houses, and an article by F. Lloyd Wright. The modern house section is particularly valuable (houses by Neutra, Howe and Lescaze, Emery, Frost and Raymond). The supplement contains about 20 examples of house remodelling to modern needs, and many more of banks, churches, etc.

La Construction Moderne. *(Paris.) Vol. XLIX, 11. 10 December.*

A large block of bourgeois flats at Nogent-sur-Marne by Hillion and Maurey. The flats have either one, two or three bedrooms with a large living room, a kitchen and bathroom, etc. Many photographs of exteriors and plan of ground floor.

Building. *Vol. VIII, 12. December.*

Seven blocks of medium-sized flats with rentals of between £100 and £200 p.a., are illustrated and described.

Arkitekten. *(Helsingfors.) Vol. XXX, 10.*

A number of good modern villas by Gösta, Juslen and Erik Bryggman.

Architects' Journal. *Vol. LXXVIII, 2029. 7 December.*

A Belgian concrete house (design by L. H. de Koninck) is described in detail and excellently illustrated by large-scale drawings.

Bouwkundig Weekblad. *(Amsterdam.) 1933, 49, 9 December.*

Many small houses in rural traditional style on reclaimed land in Holland—mostly two-bedroomed cottages.

HOTELS

Architettura. *(Milan.) Vol. XII, 10. October.*

The peculiar hotel by the sea at Massa known as the "Torre Balilla" is illustrated by photographs and plans. (Vittorio Bonadè-Bottino.)

FARMS

Bouwkundig Weekblad. *(Amsterdam.) 1933, 49. 9 December.*

New farm buildings, barn, stables, cow byres, offices, etc., under one roof on reclaimed land in Holland. There has been very little published on agricultural buildings, and this is a valuable reference.

CONSTRUCTION AND SPECIFICATION

Building. *Vol. VIII, 12. December.*

Building has always been remarkable for the excellent way in which it illustrates and describes construction details. The tradition is well kept up in the article by A. B. Searle on recent advances in terra-cotta and in J. R. I. Hepburn's article on glass as a structural material, part ii—heat loss through glass windows.

Journal of Institution of Municipal and County Engineers. *Vol. LX, 12. 5 December.*

Specification—in the light of tradition, experience and research—a long article of extracts from a gold medal paper by B. Price Davies, much valuable information on weather and damp proofing, foundations, timber, etc.

EQUIPMENT

A Magyar Mernok-es Epitesz Egylet Kozlonye. *(Budapest.) Vol. LXVII, 49-50. 10 December.*

A comparative study of the efficacy of various patent anti-down-draught chimney-pots, illustrated by photographs and graphs.

The Keystone. *(Journal of the A.A.S.T.A.) Vol. 9, 6. December.*

R. O. Sutherland [*A.*] contributes an article on Architectural lighting.

DRAWING

Building. *Vol. VIII, 12. December.*

A useful illustrated article by E. Adams [*A.*] on setting up a perspective so as to get the best viewpoint.

CONGRESS REPORT

Texnika Xronika. *(Athens.) Vol. B.IV, 44, 45 and 46. 15 October.*

This Greek journal contains the full reports of the fourth International Congress of Modern Architects held in Athens last summer. The reports are in Greek with brief French summaries. The main subject of the Congress was "The functional town," and national representatives submitted considered reports on the planning of important towns in their countries. 34 towns were studied, including London, on which a report had been prepared by the London M.A.R.S. group. These were discussed on the ship which carried the members of the Conference to Athens. The Congress proper in Athens included papers "Air-son-lumière," by Le Corbusier, on External wall construction by M. S. Syrkus (Poland), Amsterdam town planning, H. C. van Eesteren (Holland). The construction possibilities of reinforced concrete (P. S. Rini).

HISTORICAL AND ARCHÆOLOGICAL

Country Life. *Vol. LXXIV, 1924. 2 December.*

In the Christmas number a series of articles on Westminster School by Lawrence Tanner is begun, and there is the first instalment of an article by Fiske Kimball on Wanstead House, Essex, the first attempt to reconstruct the appearance and contents of this great eighteenth century house of the Earls Tylney.

ΑΡΧΙΤΕΚΤΥΡΑ C.C.C.P. *1933. No. 1.*

To show that Russia is not only interested in the future, there is an article on architectural drawing, with examples taken from drawings by Leonardo, Bramante, Michel Angelo, Frank Lloyd Wright, Mendelsohn and Corbusier.

Gazette des Beaux Arts. *(Paris.) Series VI, Vol. X, 851. December, 1933.*

A valuable article on Maya art (including architecture) by M. Frans Blom, summing up the results of recent researches. Illustrated with many photographs of Mayan buildings and sculptures.

Building. *Vol. VIII, 12. December.*

Mr. Beresford Chancellor writes a short article on Crockford's Club, the building of which by the Wyatt brothers was supplanted in the 'seventies by the present building for the Devonshire Club.

Obituary

ARNOLD DUNBAR SMITH [*F.*]

In Dunbar Smith we have lost an architect of high powers and selfless devotion to his art, whose work, being scattered about the country, is less known to London architects than that of many of his contemporaries.

The question is often asked whether he or Cecil Brewer contributed most to their joint work, but those who knew them best feel most strongly that no definite answer can be given and that the question is not of high importance or interest. Their natures complemented each other, but their aims and their outlook upon architecture were so harmonious that the quality of the work would in no way suffer if either were left to do it single-handed. This was proved in one way when the partnership was broken by Brewer's death in 1918, but there can be little doubt that if fate had reversed the blow the effect would have been the same.

The most that can be said is that there was a liveliness and ingenuity in Brewer's mind which led him to delight, especially for work of small scale, in subtleties of shape in plan and section, seen in flat splays and barely perceptible curves. These effects made less appeal to Dunbar Smith's innate simplicity and appear less in his later single-handed work, such as the Library at Armstrong College, Newcastle-on-Tyne, where nevertheless there is no less of strength or refinement.

His design is classic in the broader sense, a matter less of styles and orders than of style and order. Everywhere is lucidity, there are no loose ends, and emphasis is in proportion to the importance of the thing emphasised. There is perhaps no surer symptom of the classic spirit than the refusal to be tempted into side paths by the interest of incidentals, and it is this faculty of refusal which ensures clean design. Dunbar Smith's last completed work, the University Lecture Rooms in Mill Lane, has good speaking and hearing for its motive; acoustic shapes and materials are the stuff of the design. There is no question of "sacrificing" other things—other things were not wanted, and therefore were not considered, and the result is one of singular completeness and satisfaction. The splendid success of the Fitzwilliam Museum galleries is due to his intense study of the lighting and display of pictures, which has made the galleries themselves a subject of study for curators and architects of all countries. The Library of Armstrong College, a charming and relatively small building, is carried out with such scrupulous care for every detail of its use that visiting librarians have called it the library they had dreamt of. The Cardiff Museum, with its series of reserve galleries surrounding the exhibition rooms, brought a new conception into the planning of large museums, and it is no secret that this was due to Dunbar Smith. The defect of the old museum system was the marring of beautiful things by overcrowding. He saw the reason and found the remedy, leaving no excuse for its repetition. It is not too much to say of Smith and Brewer's buildings that they either broke new ground or showed existing knowledge carried out to perfection.

But this concentration on purpose was controlled by a true architectural sense. In this work you find no bare bones sticking out—all is exquisitely clad and never over-dressed. The very spareness of the detail leads to consideration and refinement, a Greek elegance rather than a Roman splendour. Mouldings, carving and columns are used for logical and architectural necessity, not to cover up poverty of ideas. The scale is appropriate to the type of building and is carried through with admirable consistency, as much in domestic as in public buildings. The great hall of the Cardiff Museum is probably the finest unit in all this series of fine works, and would hold its own against the great apartments of the early nineteenth century in the British Museum. St. George's Hall, and so forth. Stately as those are, it is possible to find their virtue a trifle bleak; Cardiff is not less stately, but far more interesting from its variety of shape and lighting. As you stand at either end, the contrast between the diffused lighting of the centre space beneath the dome, the dark of the screen of columns and bridge which form the first floor corridor, and the sparkle of the top-lighted staircase beyond is extraordinarily impressive. It is to be hoped that some occasion may be found to collect the bulk of Smith and Brewer's work. If this can be done, it will be seen how rarely it fell below the high standard which they set for themselves. It was, there is little doubt, of equal quality with the best work of the time, and shows a steady advance in mastery from the Passmore Edwards Settlement to the work at Cambridge and Cardiff, which makes one wonder what farther heights Dunbar Smith might have scaled with longer life.

His unconquerable modesty endeared him to his friends and his clients, but prevented him from receiving the fame and the honours which were his due. Few men of his powers can have been more modest; if he had a trumpet, which is hardly thinkable, he never blew it. Whenever possible he avoided public occasions and public speaking, but the letters of regret and appreciation which came from universities, councils and private people when ill-health forced him to retire from practice showed a warmth of feeling which proved how highly he was valued by those best able to judge. He was a delightful companion, full of humour and shrewdness, without a particle of jealousy. To his friends he was a true friend; people turned to him for advice in any architectural or private difficulty, and a word of commendation from Dunbar Smith was praise indeed, because of his complete sincerity.

H. M. F.

Dr. Cyril Fox, Director of the National Museum of Wales, has sent us the following appreciation of Mr. Dunbar Smith's work as architect of the Museum Buildings.

It is very kind of you to give me the opportunity of paying a tribute to Dunbar Smith and his work.

When I took charge of the Museum in 1926 the shell of the Entrance Hall was in process of completion by the builders after a prolonged interval (ten years). Shortly after this contract was completed we were able to proceed with the East Wing and Lecture Theatre block, which was opened in October, 1932. Thus, for over six years, I was in close touch with Mr. Dunbar Smith, and learnt to appreciate both his character and capacity.

Of his architectural genius you will have appreciations from more competent sources than I, but the point of view of a layman may be of interest.

It is one of the most difficult tasks, I imagine, which can be given to an architect to combine the monumental with the functional in architecture. The failure to do this has been demonstrated in our national museums several times over. I feel that the aim has been achieved here in the National Museum of Wales, at any rate. That this Museum adequately expresses the dignity which should be associated with a national institution no one will question; it is particularly evident in its external appearance and in its Entrance Hall. Its functional suitability is equally manifest. The Galleries are admirably designed, perfectly proportioned, with abundant natural lighting, and the architect has had in mind throughout the prime importance of the exhibits; no architectural frills have been allowed to distract visitors' attention from these.

The administrative and departmental offices are very adequate; they make the Museum extremely easy to run. A novel and most useful feature of the design is the series of reserves which runs parallel to the galleries throughout the building. This undoubtedly represents the greatest advance in museum planning of our generation.

Dunbar Smith took infinite pains to secure that the Lecture Theatre should be as perfect as possible, and redesigned it in 1928 in accordance with the latest views on the acoustics of such interiors. In this, as in other respects, it proves to be ideal.

Dunbar Smith's personal relations with the Council, the Building Committee, and members of the staff were always most cordial. He was a friend to us all, and heads of departments knew that he welcomed, and would sympathetically consider, any points which they raised in connection with the planning, which would lead to more efficient working of the machine.

On his retirement a few months ago, the Council placed on record its high appreciation of his services, and invited the firm of Smith and Brewer to record their name as architects on a suitable place in the building.

I cannot better conclude this short note than by quoting a pregnant paragraph written by a competent American observer, Mr. Benjamin Ives Gilman (Museum of Fine Arts, Boston, U.S.A.):

"The study of this admirable design awakens a vivid wish. It is greatly to be hoped that some man of ability and opportunity, who has found in the hills and streams of Wales and in the qualities of its people factors of a great fortune, will one day repay the debt by completing so highly intelligent a plan, and endowing the country with a museum not only thoroughly modern at its inception, but promising to remain modern through a long future."

We have also received the following memoir of Mr. Dunbar Smith from Mr. Walter Millard [F.].

Well over forty years ago Dunbar Smith, eager—like so many of us in our day—for getting to work in London, called at my little office in Bloomsbury bringing a note of introduction from T. G. Gibbins, F.R.I.B.A., of Brighton, with whom he had been serving articles; and to whom also, in earlier days, I had myself been articled. As luck would have it, I was just ready to take on a junior draughtsman, so we soon settled it. He proved to be the very man I needed at the time; and I think we only parted company eventually on his undergoing the experience of that happy event in an architect's life, the winning of his first competition.

Dunbar Smith and his friend Cecil Brewer, a pupil of my friend Frank Baggallay, had—one or both—been invited to take part in a limited competition for the Passmore Edwards Settlement, Tavistock Place, W.C., with Norman Shaw as assessor. At any rate, they set about producing a joint design. Knowing them both, I tried—rather heartlessly, as it now seems—to cheer them up by making would-be-jocular remarks, such as, "Going-in to win, *of course*," and by insinuating that should they come out winners they would win, not on what might be called their architecture but on their plan, which term—being interpreted—signified no less than the whole organism of the building.

I happened to be much occupied just then, and I am not sure that I even saw their drawings before they were sent in. Quite possibly these were finished off in Baggallay's office. I only remember that the assessor, in his report, expressed his approval of the workable arrangement throughout Messrs. Smith and Brewer's design which he recommended for execution.

From this building the partners went on to develop a growing practice, under the gracious influence of Mrs. Humphry Ward, who, as the moving spirit in the promotion of the Settlement, had found good reason to appreciate the abilities of its two young architects.

The early loss of the junior partner left Dunbar Smith to carry on single-handed.

Only the other day there came into the writer's hands a copy of the excellent *Short Guide* issued by the National Museum at Cardiff, well illustrated by views and plans of the already executed portions of their building; about half of the architects' full scheme. Best of all, there is given a general plan showing the complete layout. This plan is a masterpiece.

WALTER MILLARD.

12 December 1933.

ROBERT ANNING BELL, R.A. [*Hon. A.R.I.B.A.*]

By the death of Robert Anning Bell the arts of this country lose one more master of outstanding excellence and importance. His name comes rather late in the list of those famous men who seemed called into being as if by some natural law, when industrialism had begun to threaten not only the beauty of our land but even its

deepest rooted traditions and their place in European culture, but honour for his name in that succession is none the less assured. With its firm hold on tradition his work was equally original, but as it was somewhat in advance of the popular yet lagging behind the fashionable it has perhaps suffered from such a position in current esteem. This should be borne in mind in any effort to appraise it—if it is to be judged by positive standards and not by the odious methods of comparison. To all he did and to the end he brought great knowledge and skill and the utmost diligence and enthusiasm. His work was always graceful and refined, serious and thorough and well fitted to its purpose. It had something of the ineffable charm of older English poetry, to which without doubt it owed much, and, like it, it should endure while art speaks with a native tongue, and has something to say. In the pursuit of his high ideals he never flagged, but followed them with the clearest purpose and understanding; and it may be said that he earned, as not many can do, the reward of assurance that he had given those for whom he worked full value; had been worthy of his hire. And to a large extent his genius received the extra awards of recognition: The Royal Academy, the Royal Water-colour Society, The Art Workers' Guild, The Royal Institute of British Architects all paid him their fullest tributes, as did Glasgow University, the Trustees of the Chantrey Bequest and the Luxembourg. In such a long career there were disappointments of course—one of the severest being his displacement as designer of mosaics for Westminster Cathedral, though his nature was too free from bitterness for him to derive any ironic satisfaction from the result: losses as well as gains were accepted with the same cheerful courage, for he was his own most exacting critic, and neither praise nor blame could deflect him from his chosen course. The man himself was easily identified with his work, with the same sanity, the same ideality.

The virtues shone in him, but with such modesty and so agreeably that he was not only an example but a help and a delight to all with whom he came into contact. To those who knew him best he will be remembered as a most lovable and generous friend.

F. L. G.

We have received the following personal tribute to Mr. Anning Bell from Mr. Arthur Stratton, F.S.A. [F.].

A Personal Tribute.

It does not seem so very long ago, but actually it was in January, 1895, when a friendship—that meant much to me—began with Anning Bell. In those days we were both teaching in Liverpool, but although my senior as much in status as in years, he made it possible by his charm of manner and sympathetic understanding of an architectural enthusiast for a timid approach on my part to be rewarded by open-handed generosity. To have enjoyed daily converse with Anning Bell then, and for many years after, not only in the Staff Common Room, in the Studios, and best of all in places where the College atmosphere could not, and certainly did not, penetrate, was a privilege never to be forgotten. His versatility was amazing. It seemed to me that here was an artist comparable with the best that gave lustre to the Renaissance at its height. Modelling with a delicacy that reflected his personality; drawing in ink or pencil, or charcoal, with a touch at once firm and delicate; painting in oil or water-colour with a fine decorative sense of form and colour; all seemed equally easy to him, and no one medium more alluring than another.

Naturally, it was his black-and-white book illustrations and his full-size cartoons for stained-glass windows and mural decorations that appealed most to me. To have chatted with him while he worked away at such things at an astonishing rapidity is a memory still bright. His early training in architecture always seemed to me to have given him a feeling for balanced composition and a grip of structure which distinguishes all his decorative work. In later years, when large-scale decoration to buildings was entrusted to him—notably the mosaic tympanum over the great doorway of Westminster Cathedral—this understanding of architectural restraint and harmony stood him in good stead, but it was ingrained and shows equally in his early work.

In those care-free Liverpool days, before Anning Bell went to Glasgow—and I lost touch with him for a while—another constant visitor to his studio was Professor Walter Raleigh, afterwards Sir Walter, of undying fame. His sense of humour was even more pungent than Anning Bell's, and it was a liberal education to listen to two such wits discussing art and artists behind the scenes. Raleigh always called me "Puggin," because he said Pugin—Augustus, he would sometimes add—was an architect and a good one, therefore a "Puggin" was an appropriate name for either any other individual architect or for any number of architects considered collectively: that is to say, all architects were "Pugginses" in Raleigh's fertile imagination. But Anning Bell always called me "Christopher," and this is easier of explanation because he had drawn for me those delightful head and tail pieces which for a time made my first published book—an essay on Sir Christopher Wren—something to be coveted by bibliophiles. And so, when the sad news reached me in the country that he would jest no more and draw no more, I opened my copy of Keats—the edition of 1897, containing his beautiful line illustrations—and once again read the inscription written on the fly-leaf in his characteristic handwriting—

Presented to A. Christopher Stratton,
a circumstance
which
now the pride
will be
in old age
the solace
of
Robert Anning Bell

—whimsically set out in nine lines, epitaph like.

If only the memory of this and thousands of other kind, thoughtful and spontaneous acts really did bring him some solace, what more could we lucky recipients of his gifts and friendship have wished him? His heart was of gold, as I knew him.

Arthur Stratton [F.]

Notes

THE LICENTIATESHIP OF THE R.I.B.A. AND THE ARCHITECTS (REGISTRATION) ACT

The Council have decided that after 31 December 1933 no applications for admission to membership as Licentiates will be considered unless the candidates' names have been entered on the Register of Registered Architects.

VICE-PRESIDENT'S ENGAGEMENTS

Mr. W. H. Ansell, Vice-President, will be attending the Annual Dinner of the Electrical Contractors' Association on 23 January.

THE R.A. GOLD MEDAL IN ARCHITECTURE

A. S. Gray, of the Central School of Arts and Crafts, has been awarded the R.A. Gold Medal in Architecture.

"THE PLANNING OF MUNICIPAL BUILDINGS"

Mr. Percy Thomas's paper on "The Planning of Municipal Buildings," which he was due to read on 28 May 1934, has been postponed until the following Session. In its place Mr. W. G. Newton will read a paper on "The Planning of the Public School."

R.I.B.A. FINAL EXAMINATION: THESIS

Attention is called to the fact that candidates in the R.I.B.A. Final Examination will in future be required to precede their theses with a table of contents showing the main sub-divisions of the thesis.

ARCHITECTS' UNEMPLOYMENT RELIEF FUND

The Committee of the Architects' Unemployment Relief Fund have very gratefully to acknowledge the following donations which have been received since the publication of the last list in the JOURNAL:—

Messrs. Lanchester and Lodge and Staff (2nd donation)	£15	15	0
Mr. W. P. Steel (3rd donation)	10	10	0
Mr. F. J. Bellamy	5	5	0
Mr. John E. Yerbury (5th donation)	2	10	0
Mr. Percy Coad (3rd donation)	1	1	0

Mr. C. Prangnell has joined the Scheme as a subscriber.

Cheques should be made payable to the Architects' Unemployment Committee and sent to the Secretary, Architects' Unemployment Committee, 9 Conduit Street, London, W.1.

ELECTION OF STUDENTS R.I.B.A.

The following were elected as Students R.I.B.A. at the meeting of the Council held on 4 December 1933.

CHARTER: JOHN COLEMAN, 39 Hornsey Lane Gardens, London, N.6.
EVANS: JOSEPH HUBERT, "Christleton," Chester Road, Sutton Coldfield.
FISH: HENRY, 55 High Street, Aldgate, London, E.C.3.
HAMILTON: IAN, 11 Moor Place, Gosforth, Newcastle-on-Tyne.
HEAD: KATERINA EILEEN MARIE GAMBON, 8 Livingston Drive, Sefton Park, Liverpool.
HOSKINGS: KENNETH LE GARDE, 164 Algernon Road, Ladywell, London, S.E.13.
HUTCHINSON: WILLIAM ARTHUR, Halfe Hill, Skeeby, Richmond, Yorks.
IMELMANN: PERCY, 43 Courtfield Gardens, London, S.W.5.
JOHNSTON: NINIAN RUTHERFURD JAMIESON, 104 West George Street, Glasgow, C.2.
MANSEL: JOHN WILLIAM MORTON, 15 Greenbank Drive, Liverpool.
ORMAN: FREDERICK THOMAS, 24 Howard Road, Southampton.
POWELL: JOHN ARDERN, Grosvenor House, Lower Terrace, Torquay.
RANSOM: GEOFFREY FREDERICK, Holt, Norfolk.
THOMERSON: DOUGLAS ALBERT, 24 The Uplands, Loughton, Essex.
WILLS: LEONARD ALFRED, 48 Regent's Park Road, London, N.W.1.

Allied Societies

EDINBURGH ARCHITECTURAL ASSOCIATION

Mr. J. A. Arnott, President of the Edinburgh Architectural Association, took as the title of his presidential address at the opening meeting of the Association "Our Land—A Garden." Drawing an analogy with Kipling's well-known poem, he spoke of architects as the gardeners of the country and of the desperate need for hard work in planning not only to preserve the beauty of the past but to build up more beauty for the future. The various activities of the "gardeners" engaged in planning he divided under the five heads of Slum Clearance, New Suburbs, Industrial Development, Development of Country Districts, and Treatment of Monuments ancient and modern. With regard to the first and at present the most important activity, slum clearance, he spoke of the alternative possibilities of reconditioning, demolition, transference to new suburbs and the problem of whether to build high or extensively. While emphasising that there is still "a giant to be slain" in the matter of slum clearance, Mr. Arnott drew a very favourable comparison between the slums of Edinburgh to-day and those of nearly 75 years ago, taking his facts from the Press of that time. He put in a special plea for the preservation of the country-side, and particularly the Highlands, and of the ancient monuments of Scotland, looking forward to a time when beauty and utility, culture and commerce, should be far more closely united. He spoke at length of the steady spoliation of the beauty of Edinburgh, using many examples of vandalism in the city to help to prove the main argument of his address—that we must now make the choice between planning or disintegration.

With regard to the profession Mr. Arnott spoke of the Registration Act and the improvements it should bring, and also of the coming centenary of the R.I.B.A. He suggested that the power of the Allied Societies' Conference might be still further developed, and that it might be made completely representative. Speaking of the Royal Incorporation of Architects in Scotland he referred to the Council's decision that all applicants for Associateship shall be admitted only after passing the R.I.B.A. Intermediate Examination. He further suggested that it would be an important and very successful development if the Edinburgh College of Art were to start a special department of Civic Design. Speaking of the necessity for unity within the profession Mr. Arnott referred to the Institute of Registered Architects and commented on it as superfluous and therefore harmful.

Mr. Arnott concluded his address with a few remarks on the people, whom he referred to as "quasi-gardeners," who though untrained or only partially trained as architects are allowed to do architects' work—sanitary inspectors designing schools, road surveyors carrying out housing schemes, and so on. The dangers arising from this foolish system would, he considered, cease when the Registration Act came to be interpreted and applied rightly.

SOUTH WALES INSTITUTE OF ARCHITECTS (CENTRAL BRANCH)

Under the auspices of the South Wales Institute of Architects (Central Branch) and the Institute of Builders (South Wales Branch) a lantern lecture on "Places of Recreation" was given in the lecture theatre of the Engineers' Institute, Cardiff, on Thursday, 30 November 1933, by Mr. J. Murray Easton, F.R.I.B.A.

Mr. F. J. Thomas, F.I.O.B., President of the South Wales Federation of Building Trades Employers, was in the chair.

Mr. Murray Easton said that the growing importance of recreation centres in a community which was largely industrial made it important that the spaces set aside for recreation purposes should be fully considered as part of a plan—not, as was too often the case, pieces of ground taken from the public parks, or purchased by means of frantic last-moment appeals when some open space was about to be sacrificed to building development.

England had no cause to be ashamed of its facilities for sport. On the Continent this was a relatively recent development, but there the problem had been more scientifically tackled, and we had undoubtedly much to learn from what had been done there. Nothing could illustrate this thoroughness more than the Berlin Sportsforum, situated on high ground on a magnificent site overlooking the wooded lake district which is Berlin's principal pleasure ground. The buildings are arranged round a hollow square which contains an open-air swimming pool, divided, as usual in Germany, into a bathing pool, a swimming pool, and a diving pool. The bath, lined with blue tiles and having sides rounded to avoid ice pressure in winter, has a delightful appearance. The buildings contain a large gymnasium, smaller gymnasia, and training rooms of every sort, and they include residential quarters for men and women. The grounds are laid out as football, hockey, tennis grounds, and every kind of sport is provided for.

The advantage of a large and attractively equipped centre of this sort is that it prevents the lake shore in general from being disfigured by patchy eruptions of those small bathing huts which so disfigure the south coast of England.

The stadium is an institute which has found great favour in Germany. That at Cologne is a fine lay-out on a very large scale, but the stadia themselves are not of the fully developed type such as that at Wembley. They have a relatively small amount of permanent seating accommodation, and the whole scheme depends more upon skilful planting of trees and hedges, rather than upon building. Nothing is more unsightly than the average football ground in winter, and the general arrangement in Germany is to excavate the playing surface and bank the excavated material round it. These banks are formed into steps on which the spectators stand, and trees are planted round the periphery.

The lecturer referred to a question much discussed in this country—the use of public parks for sports grounds. He felt that sense and æsthetics alike indicated that central parks and gardens should be formal, and that no part of them should be taken from the general public, but that as they receded from the centre they could and should be more specialised in character, some sites being devoted to properly laid out recreation centres, and others to gardens and grass and wooded space.

It is now several years since the lecturer had studied the subject of "Places of recreation" abroad, and in the interval an immense development had taken place in this country. Large schemes had been completed both by municipalities and by private persons, and it would probably be safe to say that the accommodation for bathing in water and in sun had been doubled.

A hearty vote of thanks to the lecturer was proposed by Mr. Percy Thomas, O.B.E., F.R.I.B.A., seconded by Alderman R. G. Hill Snook, J.P., and supported by Mr. A. A. Pettigrew, Parks Superintendent, and Mr. T. Alwyn Lloyd, F.R.I.B.A.

WEST YORKSHIRE SOCIETY OF ARCHITECTS

Mr. B. R. Gribbon, president, took the chair at a meeting of the above held at the Huddersfield College of Art on 16 November, when a paper on "The Satellite Town" was given by Mr. A. W. Kenyon, architect to the Welwyn Garden City.

Mr. A. W. Kenyon started his lecture with a brief discussion of the advantages of the satellite town over flats as a solution to present-day housing problems, then proceeded to discuss the various principles involved in the formation of a self-contained satellite town as first conceived by Sir Ebenezer Howard. First and foremost there is the question of decentralisation of industry, the moving out of factories from the centre of towns. Secondly, there is the point that the small house, for which there is no room in a crowded town, can and should be built in a satellite town. Mr. Kenyon illustrated his remarks on satellite towns by tracing the development of Welwyn Garden City, stressing the important points to be considered, such as the necessity for a good site, railway, proximity to main road, drainage, water supply, the need first for temporary houses, and later for schools, factories, shops, banks, recreation centres, and playing fields, all grouped in their appropriate quarter in the town as part of a deliberate and carefully controlled plan.

The obvious advantages and success of this system of controlled planning was demonstrated by the slides shown of Welwyn, and Mr. Kenyon concluded his lecture with a plea for continued use of the great opportunity given to architects by the development of satellite towns.

A vote of thanks to Mr. Kenyon was moved by Mr. Norman Culley, and seconded by Mr. Alban Jones, who urged any young architect or student going south to visit Welwyn as an example of such decentralisation as had been advocated by the lecturer.

SCHOOL NOTES

R.I.B.A. PRIZE FOR SCHOOLS OF ART AND TECHNICAL COLLEGES

The R.I.B.A. Prize of £5 in Books for Schools of Art and Technical Colleges with facilities for the instruction of intending architects has been awarded to Mr. E. C. Broughton of the Portsmouth Municipal School of Art, and a Certificate of Honourable Mention has been awarded to Mr. E. A. Jones of the Coventry Municipal School of Art.

R.I.B.A. MEDALS FOR STUDENTS OF RECOGNISED SCHOOLS OF ARCHITECTURE

The Council of the R.I.B.A., on the recommendation of the Board of Architectural Education, have made the following awards:—

R.I.B.A. Silver Medal and £5 in Books.

The R.I.B.A. Silver Medal and £5 in Books for Schools of Architecture recognised for exemption from the R.I.B.A. Final Examination has been awarded to Mr. E. T. Dowling of the Architectural Association School of Architecture.

R.I.B.A. Bronze Medal and £5 in Books

The R.I.B.A. Bronze Medal and £5 in Books for Schools of Architecture recognised for exemption from the R.I.B.A. Intermediate Examination has been awarded to Mr. N. C. Westwood of the Architectural Association School of Architecture.

Certificates of Honourable Mention have been awarded to the following :—

Mr. H. Gibberd (Birmingham School of Architecture).

Mr. F. W. Griffiths (Liverpool School of Architecture, University of Liverpool).

Miss Mary Drysdale (School of Architecture, Edinburgh College of Art).

SCHOOLS OF ARCHITECTURE EXEMPTED FROM THE INTERMEDIATE AND FINAL EXAMINATION

The Council of the Royal Institute, on the recommendation of the Board of Architectural Education, has decided to grant recognition for exemption from its Final Examination to the following schools:—

The Department of Architecture, University of Sheffield.

The Armstrong College School of Architecture, University of Durham, Newcastle-upon-Tyne.

Recognition for exemption from the R.I.B.A. Intermediate Examination has been granted to the School of Architecture of the Dundee Technical College and School of Art, while the Architectural School of the Portsmouth Municipal School of Art, and the Architectural Department of the City of Hull College of Arts and Crafts have been granted permission to submit School drawings in lieu of the Testimonies of Study for the Intermediate Examination.

THE LIVERPOOL SCHOOL OF ARCHITECTURE

"Liverpool has given me a quite beautiful and surprising reception," said Erich Mendelsohn, "and on the most exciting scale. And I love that scale," he added. The occasion of this was Mendelsohn's visit to the School on 17 November to give a lecture illustrating his own work, on the invitation of the Students' Architectural Society. The new lecture theatre was packed by students and staff, local architects and visitors, who gathered to welcome him in anticipation of hearing and possibly being inspired by his philosophy.

He illustrated the revolution in architecture in the visual world, linking it with the critical evolution of our present material world. At the same time he illustrated his own attitude to architecture, his creative approach. Originally it is a romantic approach, "the first voluptuous conception," as he called it; afterwards a continuous and rigid control, the subjection of his idea to the necessities of construction, to actuality.

He showed slides of his early sketches, and of most of his important buildings, including the Schocken Store at Chemnitz, which he described as "the free swing of a clear solution, convincing by day through the music of its proportions and fantastic by night through the audacity of its floating construction. Forgive me," he added, "for speaking like this about it, but I feel it is my best building." He ended on a note of optimism. "We have found the elements of a new style," he said, "and the younger generation must work it out and find the equilibrium."

Another interesting and interested visitor to the School has been Mr. L. H. Keay, the City Director of Housing. Mr. Keay gave the senior years and the town planning students a short talk on housing problems, illustrating his remarks by plans, photographs and drawings of tenements, housing estates, and slum clearance schemes carried out under his direction in Liverpool. He then proceeded to demonstrate that what he had been preaching was practicable, by leading an excursion round some of the latest work of the kind in Liverpool. The Trowbridge Street tenements were visited, the new houses on the Dovecot Estate, and finally the Speke Estate, where the tenements were built by direct labour at a price below that tendered for in the usual way by contractors.

ARCHITECTURAL ASSOCIATION

The Winter Term is drawing to a close, and the annual pantomime is eagerly anticipated by all students and members. Electricians and painters for the pantomime are having a hectic time in getting ready for the opening performance on Monday, 11 December.

The annual Rugby fixture between the lower and upper Years (Babes *v.* Giants) resulted in the usual victory of the former team.

A crowded visit list included attendance at the Old Bailey during the conduct of a case, and parties to the Children's Hospital Nurses Home, Cambridge Theatre, Horticultural Hall, New Cinema at Wimbledon, Wimbledon Town Hall, Underground House, Shenley Mental Colony, and St. Thomas the Apostle Church at Hanwell.

The Draughtsmanship Prizes for this term have been awarded to R. H. Macartney for his 5th Year subject, "Treatment of a Water Source," and to R. S. Tubbs, for his 4th Year construction subject, "A Law Courts."

At the invitation of the Institute of Arbitrators the 5th Year attended a Practice Arbitration on a dispute arising out of settlement of the contract for the erction of a steel frame.

An announcement has just been made that the Wall Paper Manufacturers have provided funds for the maintenance of two new scholarships of £50 per annum.

Mr. Yerbury described the A.A. Excursion to Italy at the General Meeting on 28 November, showing many lantern slides and explaining how the Italians are trying to solve their Housing Problem.

THE A.A. PANTOMIME

Those patrons of the A.A. Pantomime who see it for the first time, having not yet acquired the pantomime habit, should be warned that it is not to be judged by the standards of the ordinary amateur performance.

The art production is expected to reach a level which is higher than most, and much attention is given to the proscenium—which has to be re-done each year—to setting, costumes and lighting, the results produced often being astonishing, considering the difficulties under which they are necessarily carried out.

The book in which topicalities are expected and appreciated is written by the students, with some contributions from A.A. members; the music is sometimes borrowed and sometimes new, but music there must be; the production and acting are done by the students alone.

This year's Pantomime, which was a very good one, gained largely by its simplicity; nothing too ambitious was attempted and the whole effect was fresh and cheerful. In its art production it was the equal of any other there has been. The scenery was excellent throughout and was never overdone, as it is apt to be at times on so small a stage. The proscenium opening and curtain were most delightful; and the curtain with its sprayed pattern in neutral tones lent itself very well to the changing lights.

Out of the seventeen sketches and prologue and epilogue which made up the programme, the prologue and six sketches were definitely of A.A. or architectural interest, but the staff were let off more lightly than usual, though there was a superb impersonation of the Art Master and a speech by one Hâatt Râbotson (E. R. Lewis) with whose tailoring, voice and turn of speech one seemed curiously familiar.

The main criticisms to be made are that the whole thing was too long, the first half particularly being inclined to drag, and it is a mistake to include sophisticated sketches and blue dances which can be seen at only too many London theatres. Producers should remember that as there is no slope on the floor as little action as possible should take place at a low level—it is wasted on all but the front rows of the audience. Also that a chorus should never be left to its own devices on the stage.

The acting this year was above the average. A cast of only twelve was an advantage as far as the acting was concerned but the chorus singing suffered and it was rather depressing in the epilogue to see the stage so empty.

Miss Elma Thomas is one of the most finished actresses the A.A. has seen and has a very charming voice; E. D. P. Salaman was a joy throughout, and with M. C. Tebbitt, a comedian of a very wide range, bore the brunt of the work, supported by E. R. Lewis, who made an excellent Uncle Dick among the Bruin Boys, and J. J. Orpen, a good broad comedian.

The Pantomime owes a good deal to Wylton Todd, who is chiefly responsible for the music; although much was borrowed, some of the lyrics were his own, and his help was invaluable.

The whole cast is to be congratulated, and deserve much credit also for the rapidity with which they changed between the scenes, but above all praise is due to T. C. Page for his vigorous and finished production.

THE WELSH SCHOOL OF ARCHITECTURE, CARDIFF

A particularly successful function was held on Saturday, 25 November, when some 270 architects and students of architecture and their friends were present at a dance arranged by the Welsh School of Architecture, the Technical College, Cardiff.

The students of the School designed and carried out a particularly effective scheme of decoration for the Assembly Hall of the College in which the dance was held.

Among those present were Mr. C. H. Francis (Chairman of the Welsh School of Architecture Club), Lieut.-Col. Fawckner [*F.*] (President of the South Wales Institute of Architects), Mr. Ivor Jones [*A.*] (Hon. Secretary of the South Wales Institute of Architects) and Mrs. Jones, Mr. J. Williamson [*A.*] (Chairman of the Central Branch of the South Wales Institute of Architects) and Mrs. Williamson, Mr. and Mrs. J. A. Hallam, Mr. Lewis John, M.A., B.Arch. [*A.*], and Mrs. John, Mr. A. MacLean, B.A. [*A.*], and Mrs. MacLean, Mr. F. G. Allen, Mr. J. P. Ward [*A.*], Mr. W. H. Maton [*A.*], Mr. C. Rosser [*A.*], Mr. J. R. S. Shedden, Miss A. M. Wride and Mr. W. S. Purchon, M.A. [*A.*].

Notices

THE FOURTH GENERAL MEETING
MONDAY 8 JANUARY 1934

The Fourth General Meeting of the Session 1933-34 will be held on Monday 8 January 1934 at 8 p.m., for the following purposes:—

To read the Minutes of the Third General Meeting held on Monday 18 December 1933, formally to admit members and students attending for the first time since their election.

To announce the Council's nomination for the Royal Gold Medal 1934.

To read the Council's Deed of Award of Prizes and Studentships 1934.

Mr. G. Grey Wornum [*F.*] to read a criticism on the designs and drawings submitted for the Prizes and Studentships 1934.

SPECIAL GENERAL MEETING
MONDAY, 8 JANUARY 1934

A Special General Meeting will be held on Monday 8 January 1934 at the conclusion of the General Meeting for the following purposes :—

To consider the Council's proposals:—

(a) For amending Bye-law 24 so as to facilitate the action to be taken by the Council in considering cases of alleged unprofessional conduct.

(b) To define more clearly the Council's power to announce their decisions in cases of reprimand.

(c) To make provision for the Chairman of the R.I.B.A. Competitions Committee to be an ex-officio member of the Council.

If the proposals are approved, to pass the following resolutions:—

(1) That in Bye-law 24 all the words after "meeting" in the fourth line down to and including "Council" at the end of the seventeenth line be deleted, and the following words be inserted:—

"or before such Committee of members of the Council as the Council may depute at the commencement of each Session to investigate such matters on their behalf. The Council may also, if they think fit, initiate such a charge upon any information whatsoever and without previous receipt of a charge written and signed as aforesaid. Any such charge shall be considered and investigated by the Council or Committee of the Council and should *prima facie* grounds be found for further proceedings the Secretary shall send in a registered letter to the member against whom the charge is preferred, a statement of the charge, calling upon him to answer such charge in writing within fourteen days of the date of such letter or within such period as the Council or Committee of the Council may determine, and, at their discretion, to appear in person before a meeting of the Council or a meeting of the Committee of the Council."

(2) That in Bye-law 24 line thirty-one the word "reprimand" be inserted after "such" and before "suspension."

(3) That the following sub-clause be added at the end of Bye-law 28:—

"(k) The Chairman of the R.I.B.A. Competitions Committee."

(4) That the necessary steps be taken to obtain the sanction of the Privy Council to such amendments to the Bye-laws as are required to give effect to the foregoing resolutions.

LIMITED COMPETITIONS

The Council, on the recommendation of the Competitions Committee, have decided to add the following paragraph and note to Clause 8 of the Code of Professional Practice:—

Architects asked to take part in a limited competition must at once notify the Secretary of the R.I.B.A., submitting particulars of the competition.

NOTE.—A formal invitation to two or more architects to prepare designs in competition for the same project is deemed a limited competition.

NATIONAL SCHEDULE OF DAY-WORK CHARGES

The Practice Standing Committee desire to notify members that the National Schedule of Day-work Charges which has been prepared by the Chartered Surveyors' Institution in conjunction with the National Federation of Building Trades Employers has now been submitted officially to the Royal Institute, and it will be considered by the Committee at an early date.

THE LICENTIATESHIP OF THE R.I.B.A. AND THE ARCHITECTS (REGISTRATION) ACT

The Council have decided that after 31 December 1933 no applications for admission to membership as Licentiates will be considered unless the candidates' names have been entered on the Register of Registered Architects.

R.I.B.A. SESSIONAL PAPERS

Owing to pressure of work Mr. Percy Thomas, O.B.E. [*F.*], has found it necessary to postpone until the 1934-35 Session the paper on "The Planning of Municipal Buildings," which he was due to read on 28 May 1934. Mr. W. G. Newton, M.C., M.A. [*F.*], has kindly consented to take Mr. Thomas's place and to bring forward to 28 May 1934 the paper on "The Planning of the Public School" which he had already agreed to read at a later date.

THE ARCHITECTS' REGISTRATION ACT 1931

Members of the Royal Institute of British Architects and of the Allied and Associated Societies are reminded that after 31 December 1933, no one who has not passed an examination recognised by the Architects' Registration Council of the United Kingdom will be eligible to apply for admission to the Register of Registered Architects set up under the provisions of the above Act.

All Members who have not already done so are therefore urged to send in their applications immediately.

Full particulars and the necessary application form can be obtained from the Secretary R.I.B.A.

THE USE OF THE TITLES "CHARTERED ARCHITECT" AND "REGISTERED ARCHITECT"

Now that the Registration Act is in force, the Council have been asked to give advice with regard to the best way to use the title "Registered Architect" by members of the R.I.B.A. who have been placed on the Register, and who already have the right to use the designation "Chartered Architect."

The Council recommend that members of the R.I.B.A. who have been registered should use the designation "Chartered and Registered Architect."

ASSOCIATES AND THE FELLOWSHIP

Associates who are eligible and desirous of transferring to the Fellowship are reminded that if they wish to take advantage of the election to take place on 5 March 1934 they should send the necessary nomination forms to the Secretary R.I.B.A. not later than Saturday, 13 January 1934.

LICENTIATES AND THE FELLOWSHIP

The attention of Licentiates is called to the provisions of Section IV, Clause 4 (*b*) and (*cii*), of the Supplemental Charter of 1925. Licentiates who are eligible and desirous of transferring to the Fellowship can obtain full particulars on application to the Secretary R.I.B.A., stating the clause under which they propose to apply for nomination.

CESSATION OF MEMBERSHIP

Under the provisions of Bye-law 21 the following has ceased to be a Licentiate of the R.I.B.A.:—

Charles Vincent McLaughlin.

Competitions

BELFAST : NEW SANATORIUM BUILDINGS

The Belfast Education Committee are proposing to hold a competition for new Sanatorium buildings at Whiteabbey and Graymount and Mr. R. S. Wilshere [*F.*] has been appointed to act as Assessor. Conditions are not yet available.

BEXHILL: PROPOSED ENTERTAINMENTS HALL

The Bexhill Town Council invite architects to submit, in open competition, designs for a new entertainments Hall.

Assessor: Mr. T. S. Tait [*F.*].

Premiums: £150, £100 and £75.

The last day for receiving designs has been extended to 29 December 1933.

COVENTRY: LIMITED COMPETITION FOR A NEW PUBLIC ELEMENTARY SCHOOL

The City of Coventry Local Education Authority invite architects practising and whose offices are situate within the City of Coventry on 1 November 1933, to submit, in competition, designs for a new Public Elementary School to be erected on a site in Hen Lane.

Assessor: Mr. A. C. Bunch [*F.*].

Premiums: £100, £50 and £30.

Last day for questions: 18 November 1933.

Last day for receiving designs: 13 January 1934.

SLOUGH: NEW COUNCIL OFFICES

The Slough Urban District Council have decided to hold an open competition in connection with the new Council Offices which are to be erected at Salt Hill. Premiums of £150, £100 and £50 will be offered and Mr. H. S. Goodhart-Rendel [*F.*] has been appointed by the President of the R.I.B.A. to act as Assessor. Conditions have not yet been drawn up.

STOKE NEWINGTON: MUNICIPAL BUILDINGS

The Council of the Metropolitan Borough of Stoke Newington have authorised the holding of a limited competition for Municipal Offices and extensions to the Library and Electricity Offices. Conditions have not yet been received.

STOKE-ON-TRENT: PROPOSED MENTAL COLONY

The Competitions Committee desire to call the attention of Members to the fact that the Conditions of the above competition are not in accordance with the Regulations of the R.I.B.A. The Competitions Committee are in negotiation with the promoters in the hope of securing an amendment. In the meantime Members should not take part in the competition.

SWINDON: PROPOSED TOWN HALL EXTENSION

The Town Council of Swindon propose to hold a competition for Extensions to the present Town Hall, and Mr. A. B. Knapp-Fisher [*F.*] has been appointed by the President of the R.I.B.A. to act as Assessor. Conditions have not yet been drawn up.

BRITISH ELECTRICAL DEVELOPMENT ASSOCIATION : DESIGN OF ELECTRIC KITCHENS

The British Electrical Development Association is holding a competition for designs of two types of electric kitchens.

(1) For a house (or flat) valued at £300-£400 (net building cost without land),

(2) For a house (or flat) valued at £800-£900 (net building cost without land).

Assessors: Mr. R. S. Downe, M.I.E.E.
Mr. Francis Lorne [*F.*].
Miss Maughan, M.Sc.
Mr. Lionel G. Pearson [*F.*].
Mr. A. C. Cramb, M.I.E.E., M.I.Mech.E.

Premiums: £50 and £25 in each section.

Last day for receiving designs: 15 January 1934.

Conditions of the competitions may be obtained on application to the Secretary, British Electrical Development Association, Inc., 2 Savoy Hill, London, W.C.2. Price 1s.

COMPETITION RESULT

FORTH PARK, KIRKCALDY : MATERNITY HOME

1. Messrs. William Williamson [*F.*] and Harry Hubbard [*A.*], Kirkcaldy.

Members' Column

NEW PARTNERSHIP

MR. ALBERT PULLEN [*L.*] has entered into partnership with Mr. Hans Berents, Civil Engineer, at 511-512 Glen Line Building, The Bund, Shanghai, China, and would be pleased to receive trade catalogues, literature, etc.

NEW PRACTICES

ARNOLD A. HIGUER, L.R.I.B.A., has commenced practice at 1 Montague Street, Russell Square, W.C.1, and will be pleased to receive catalogues at that address.

MR. J. O. NELSON, B.Arch.,A.R.I.B.A., is commencing practice at 22 Lord Street, Liverpool 2, Tel. Bank 756, and will be pleased to receive trade circulars, catalogues, etc., at that address.

MR. E. HOWARD SADLER (*Student*) has recently commenced practice at "Paxton Tor," the Green, Matlock, and will be pleased to receive trade samples, catalogues, etc., at this address.

CHANGE OF ADDRESS

MR. PHILIP A. W. ROFFEY (*Student*) has opened new offices at Martyn House, Disraeli Road, High Street, Putney, S.W.15, and would be glad to receive trade catalogues at his new address.

Minutes III

SESSION 1933-1934

At the Third General Meeting of the Session, 1933-1934, held on Monday, 18 December 1933, at 8 p.m.

Sir Giles Gilbert Scott, R.A., President, in the Chair.

The attendance book was signed by 32 Fellows (including 5 members of Council), 44 Associates (including 2 members of Council), 1 Retired Associate, 13 Licentiates, 1 Hon. Associate and a very large number of visitors.

The Minutes of the Second General Meeting held on 4 December, 1933, having been published in the JOURNAL, were taken as read, confirmed and signed as correct.

The Hon. Secretary announced the decease of:—

Nathaniel Lloyd, O.B.E., F.S.A., elected Licentiate 1931, Fellow 1931.

Cecil Hamilton Simpson, elected Associate 1909, Fellow 1921.

Arnold Dunbar Smith, elected Fellow 1906, transferred to the Class of Retired Fellows 1933. Mr. Dunbar Smith was awarded the Godwin Bursary in 1903.

W. Hodgson Burnet, elected Licentiate 1911.

and it was Resolved that the regrets of the Institute for their loss be entered on the Minutes and that a message of sympathy and condolence be conveyed to their relatives.

The following members attending for the first time since their election were formally admitted by the President:—

Bernard George [*F.*].
W. H. Beattie [*A.*].
Alfred G. Church [*A.*].
Arthur C. Layfield [*A.*].
E. Mayorcas [*A.*].
W. Leslie Nicholson [*A.*].
Charles A. Richards [*A.*].
Thos. W. Applegath [*L.*].
A. H. Hasnip [*L.*].
Cyril F. Watson [*L.*].
Miss E. M. C. Anderson [*Student*].
Leslie T. George [*Student*].
Martin J. H. Goodchild [*Student*].
G. H. Lawrence [*Student*].
R. M. V. Messenger [*Student*].
Miss Patricia J. Owen [*Student*].
P. H. D. Ronaldson [*Student*].
Arthur H. Shearing [*Student*].
Philip H. Shepherd [*Student*].

Mr. S. Chermayeff [*F.*] having read a Paper on "New Materials and New Methods," a discussion ensued and on the motion of Mr. H. S. Goodhart-Rendel [*F.*], seconded by Mr. E. Maxwell Fry [*A.*], a vote of thanks was passed to Mr. Chermayeff by acclamation and was briefly responded to.

The proceedings closed at 9.40 p.m.

A.B.S. INSURANCE DEPARTMENT
HOUSE PURCHASE SCHEME.
(For property in Great Britain only.)
REVISED TERMS.

The A.B.S. Insurance Department is able, through the services of a leading Assurance Office, to assist an *Architect or his Client* in securing the capital for the purchase of a house on the following terms:—

AMOUNT OF LOAN.

75 per cent.

of the value of the property as certified by the Surveyor employed by the Office.

RATE OF INTEREST.

5 per cent. gross (which, at the present rate of income tax, represents 3¾ per cent. nett).

LEGAL COSTS AND SURVEY FEE,

also the amount of the first quarter's premium on the Endowment Assurance referred to below, are advanced in addition to the normal loan. If the loan is continued for more than fifteen years the *Survey and Legal Costs will be refunded* to the Borrower on repayment of the loan.

REPAYMENT.

By means of an Endowment Assurance which discharges the loan at the end of 15 or 20 years or at the *earlier death* of the Borrower.

SPECIAL CONCESSION TO ARCHITECTS.

In the case of houses in course of erection, it has been arranged that provided the Plan and Specification have been approved by the Surveyor acting for the Office, ONE-HALF of the amount of the loan agreed upon will be advanced on a certificate from the Office's Surveyor that the walls of the house are erected and the roof on and covered in to his satisfaction.

N.B.—Loans will not be undertaken under this scheme upon:

(*a*) Property the value of which is not sufficient to warrant a loan of at least £500 or of which the value exceeds £2,500;

(*b*) Property of the bungalow type;

(*c*) Property not in the sole occupation of the Borrower.

If a quotation is required, kindly send details of your age next birthday, approximate value of house and its exact situation, to the Secretary, A.B.S. Insurance Department, 9 Conduit Street, London, W.1. Telephone: Mayfair 0434.

Members sending remittances by postal order for subscriptions or Institute publications are warned of the necessity of complying with Post Office Regulations with regard to this method of payment. Postal orders should be made payable to the Secretary R.I.B.A., and crossed.

It is desired to point out that the opinions of writers of articles and letters which appear in the R.I.B.A. JOURNAL must be taken as the individual opinions of their authors and not as representative expressions of the Institute.

R.I.B.A. JOURNAL

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